GPO 16—67244-1

SYLLABUS

PREPARED FOR THE USE OF THE CLASS,

BY

S. HENRY DICKSON, M. D.

PROFESSOR OF THE

INSTITUTES AND PRACTICE OF MEDICINE

IN THE

Medical College of the State of South-Carolina.

Charleston:
PRINTED BY JAMES S. BURGES.
1834.

Mr. A. Lessner

SYLLABUS.

PATHOLOGY.

PATHOLOGY.

The Science of *Pathology* of necessity presupposes and is founded upon an acquaintance with the doctrines of *Physiology.*

As Physiology is the history of the several organs of the animal body and their functions in a natural and healthy state; so

PATHOLOGY consists in a knowledge of the morbid conditions of the organs, and their functions.

DISEASE has been variously defined; it always implies some irregularity or aberration in the performance of one or more of the functions of the body.

This irregularity of action may be owing to obvious alteration in the structure of some of the parts of the body, or it may occur without our being able to detect any change in the structure of any part. Hence the distinction of Diseases, into Functional and Organic—and hence the importance of a close inspection of the condition of the parts of bodies which have died from disease—a description of which constitutes the useful and interesting department of Morbid Anatomy.

Disease may be local or general. Is *local* when the cause producing it acts with special force upon some single part or organ, while yet no participation in the morbid consequences is extended to other parts. Is *general* when the primary local affection has been communicated or extended throughout the system. Each of these may produce the other. It is probable that all diseases are primarily local, and afterwards radiated or rendered universal by nervous sympathies. General disease may also produce local affections, as in hepatic and splenic inflammation from the concussions of fever, and in gout and scrofula.

Causes of Disease divided in the books into Remote and Proximate.

The *proximate cause* has been absurdly enough regarded as the disease itself. I would denote it as being the first *essential* link in the chain of morbid actions, whose results become obvious in the symptoms of disease. The consideration of proximate cause—a very complicated and obscure subject—is better deferred, therefore, until we enter upon the consideration of maladies separately.

Remote causes—distinguished into the Predisposing and Exciting—terms happily chosen as suggesting clearly enough their own meaning. As to the specific agency of these modes of causation, I infer that *disease in the abstract* may be attributed to the disturbing influence of exciting causes, while the mode and seat of the disease generated will be determined by the existing predisposition upon which the former has acted. Yet we cannot always draw a line clearly between them. Predisposition may be so strong as to develope disease without the need of application of any transient ex-

citement—as in gout, scrofula, &c.—and on the other hand an exciting or occasional cause shall have power to produce immediate predisposition, or rather perhaps of itself to determine the nature of subsequent and consequent disease, as in small pox and other contagions.

Brown, Broussais, Parry, and other Pathologists have taught that the effect of all such causes is only an increase or enhancement of the natural actions—in other words that *morbid* differs from *healthy action* merely in intensity or degree. This is an important and mischievous error. That morbid causes occasion difference in nature or kind of action, as well as in degree, I infer from the changes which take place in the secretions of disordered surfaces, which are altered in properties—obvious and chemical; and from the newness and peculiarities of diseased structures which are built up, as in fungus hematodes, cancer, &c.

Predisposing causes may be internal or external—original or accidental. Individual peculiarities of structure give predispositions, as we see in congenital shortness of neck which tends to occasion apoplexy, narrowness of thorax to admit readily respiratory disorder, &c. Minuter peculiarities which we cannot see, we deduce from the results as observed.

Predispositions, evidenced by known tokens, constitute temperaments. The consideration of these belongs properly to Pathology, though treated of usually among the subjects of Physiology. Perfect health is incompatible with the exquisite or notable developement of any temperament.

Sex—Age—Colour—each exhibit well marked and notable predispositions.

All the individual predispositions, whether internal or external, may be transmitted hereditarily—of this the examples are indefinitely numerous. *Idiosyncrasies* are either the result of internal peculiarity of conformation, or of sympathetic association—and thus present instances of both *original* and *accidental* predispositions.

Numerous farther examples of acquired or accidental predispositions may be adduced in recurrent or paroxysmal diseases, such as hysteria, mania, intermittent fever, &c. which become habitual, as the phrase is; that is, which generate a predisposition of irresistible strength. It is possible also that this is often done by effecting some minute changes of structure in the parts chiefly affected, as in rheumatism, &c.

Among external sources of predisposition we enumerate *climate, topographical peculiarities of surface of country and soil, &c.* hence national temperaments. *State of society*—many diseases are the product of civilization and refinement, and so absolutely artificial; *conditions of life* and *occupations, quantity* and *quality* of *food, epidemic distemperature* of the *air.*

Epidemics are local and general. The local we may sometimes trace to the obvious qualities of the atmosphere, as to Heat, Moisture, Electricity, &c.; at others to undetected miasms or exhalations from animal and vegetable matter. We may instance among local epidemics, mal'aria fevers, yellow fever, dysentery, sore throat, the plague and typhus.

Of general epidemics the origin is not known. They are not to be properly ascribed to any of the sources above mentioned. They are referable to no traceable condition of the atmosphere; nor limited to any particular topography. They are catarrhal fever. Indian cholera, pneumonia typhoides, &c.

Epidemic predispositions the most forcible known. Few constitutions escape their impression. They modify all diseases or supplant them. They need little or no aid from exciting causes of disease. After a time they decline and die away, probably from the wearing out of the susceptibility to their influence occasioned by habit.

Exciting causes.—Among these we instance *alternations—changes of any kind.* Change of climate a very familiar cause in the present day of emigration. Vegetables and the lower animals are thus affected as well as man. The evils thus occasioned may be lessened by certain precautions, but all emigrants to distant or contrasted climates must expect a seasoning, or an attack of some endemic before they can attain a complete assimilation or adaptation of constitution to their new circumstances.

Heat.—High temperature produces apoplexy, phrenitis, inflammatory fever, hemorrhage. It affects the *internal* viscera by increasing the force and frequency of the circulation, and by their sympathy with the skin, whose exhalations it increases largely; thus it it gives rise to hepatic, gastric and intestinal derangements.

Cold—causes pernio and other external inflammations, and by constricting the surface and interfering thus with the perspiratory function, gives rise to a host of diseases of undue determination—pleurisy, enteritis, catarrh, &c.

Alternations of temperature.—The effects above described are more certain and intense if thus produced. Heat applied after cold is perhaps the more dangerous of the two changes.'

Food—of improper quality, or in improper quantity. Scurvy arises from salted meats, &c.—dyspepsia from undue use of acids and seasoning—colics, &c. from meals too large for the stomach.

Intemperance in drinking.—Vinous and alcoholic fluids are dangerous in proportion to the intoxicating power. Their immediate effects are upon the stomach and brain, but acting upon predisposition, they may occasion an infinite variety of maladies.

Dress, manners, customs, amusements, &c. if not properly regulated, all become in their turn exciting causes of disease. The female stay or corset has been animadverted on much more than it deserves. Properly arranged it gives support as well as adds neatness and beauty to the form. It may be so tightly drawn as to interfere with locomotion and respiration, and to oppress the abdominal viscera; the steel piece may also be too broad, and thus injure the breasts.

Occupations are among exciting causes. Millers, stone-cutters, needle-grinders, cotton-ginners are subject to bronchial and pulmonary inflammation from the mechanical irritation of particles inspired. Painters, gilders, &c. are injured by the fumes of the metals they employ. Manufacturers in general suffer both from confinement and from monotony of life with utter hopelessness of change or improvement of condition.

The Passions must be enumerated here. I regard them as all stimulating in their immediate influence, and as directed primarily to the sensorial organs.

Anger, Grief and *Joy* produce apoplexy, hemorrhages, phrenitis.

Love—a dangerous passion even if successful; when otherwise often gives rise to insanity.

Fear affects the muscular, circulatory and digestive systems, relaxes the sphincters; has been known in a few hours to give the hair a silvery whiteness and the whole frame the aspect of sudden and premature old age.

Poisons—divided into the *mineral, animal* and *vegetable*, to which I would add a fourth, the *gaseous*, or *ærial*—as the sources of some of them are not well known, while their form is obvious.

1. The *vegetable* poisons.—Some act by inhalation, as the upas and mancinella; others by contact with the skin, the cerbera ahovai, mannarilla, cashew nut, rhus radicans and rhus vernix, mustard, &c.—these irritate and inflame. Others still upon the stomach and intestinal tube—these are our emetics and cathartics; and others on the nervous system—these are the narcotics, which relax, intoxicate, and produce stupor, coma and convulsions; lastly, others require to be introduced into the circulation, as the woorara and ticunas.
2. The *animal* poisons are reserved for future consideration in another connection.
3. The *mineral* poisons are multiplied in number by chemical processes. The metals are in their proper state harmless, but the salts of many of them are poisonous, as of mercury, lead, arsenic in a high degree of intensity, copper, antimony. The pure alkalis and the acids are irritating and corrosive.
4. The *ærial* poisons.—Some of these are of known chemical origin and qualities, as the several irrespirable gases; others are in both these respects obscure and undetected, as epidemic contaminations and malaria. Of the first class the most common is the carbonic acid gas, and the other forms of union of carbon and oxygen so often met with in mines, wells, vaults, &c.—these affect with asphyxia. The precaution should be taken of sending into suspected places a lighted candle; if this cease to burn, quicklime should be thrown in sufficient quantity to absorb while slaking the superabundant carbonic acid gas. Charcoal burned in ill ventilated apartments consumes the oxygen and combines with it so rapidly as frequently to have occasioned thus loss of lives. Air which has been breathed becomes soon unfit for respiration. A terrible instance of the effects of confinement in a close apartment is recorded in history as having occurred in Calcutta upon its surrender to the Suba of Bengal in 1756. 146 of the English garrison were confined in a narrow dungeon during a hot, airless and miserable night—123 perished before morning.

Mal'aria.—This term preferred in compliance with modern usage to the word miasm, which has both etymologically and in the writings of many physicians an extension so wide as to include all ærial contamination. whether chemical, contagious or epidemic.

Mal'aria, defined as a peculiar distemperature of the Air of certain regions, derived from sources to be considered in order, traceable only by its effects, and as yet undetected by any chemical or mechanical investigations.

Its nature is unknown—its very existence has been made matter of dispute—all the influences ascribed to it have been attributed to the mere agency of *moisture*, or of moisture associated with heat; an error evidently owing to the concomitance of these exciting causes, and their tendency to promote its efficiency.

The *principal source* of malaria is believed to be the decomposition of vegetable matter. The growth and production of vegetables, as well as their subsequent decay, are fostered by the presence of moisture and the action of high temperatures. Effluvia, thus disengaged, produce all the forms of fever, and many other diseases; so well known as being thus generated, that their occurrence is regarded as proving the presence of malaria, an identical agent. Local and limited sources are, in this way, capable of originating much evil: thus, in a confined cellar, or the hold of a ship, decaying vegetables create fever. Hence, malaria fevers appear in summer and autumn, and are intense in proportion to the temperature of the country affected. In hot countries we have the plague, yellow fever, bilious remittent, &c.—in colder regions, intermittents of chronic character, hepatitis, jaundice, &c. *Cold*, when sufficiently intense, puts a check on the influences of malaria. *Heat* farther promotes the action of malaria, by generating a predisposition in the system favourable to it, by relaxing and debilitating the skin and liver. *Moisture* is not only necessary to its production, but likewise becomes the medium in combination with which this poison acts upon the body—a combination, it would seem, of essential necessity to give it effect. Hence the known insalubrity of fogs and dews in malaria regions; hence the advantage of a certain degree of elevation from the exhaling soil.

A certain degree of concentration, and a certain amount of dose, are necessary also to the efficiency of malaria. It is in this property chiefly that a Virus, technically so called, differs from a poison; the former being independent of both these circumstances: thus the smallest particle of variolous or vaccine matter, however diluted, can infect the whole body. Calms are favourable to the concentration of malaria; winds and storms waft it away, disperse and dilute it.

Malaria probably acts upon the skin primarily. Thus we account for the insusceptibility of the negro race, who perhaps differ from the white more in this point than any other. It also acts more readily during sleep, when the functions of the skin go on with energy.

Any thing which depresses the vital power, may be said to assist its invasion—fatigue, want of food, of rest, of clothing, &c.

Habit diminishes in the white man rather the *violence* of its effects, than the susceptibility to its action. Many residents in the low country have regularly annual attacks—these are of no great severity, but infallibly undermine the constitution. A stranger is attacked *violently*. Latent period doubtful—differs probably in proportion to intensity of cause applied, which may at once excite, or may only generate predisposition. Trees are found to oppose an efficacious barrier to the invasion of malaria. I am uncertain whether this is owing to the mechanical impediment which they offer to its passage, or whether it is better accounted for by the supposition of the existence of some attractive force, which causes the miasma to adhere to their foliage, or by the suggested evolution of some efficient counter agent. This last conjecture may assist us to explain the healthfulness of

our pine barrens; among the favourable circumstances in whose position I would enumerate the terebinthinate exhalations from the trees, as probably balmy, tonic, and salutiferous. Among other sources of malaria, the decomposition of decaying volcanic matter has been suggested, and applied well to the phenomena familiar in Italy. The country about Rome is not marshy, but volcanic; so of Civita Castellana, &c. &c. Ferguson declares the only necessary condition to be, "paucity of water succeeding its abundance." Some Medical philosophers would substitute the agency of *specific animalculi* for all miasmatic and epidemic influences; and Dwight has proposed *animalcular putrefaction* as a source of mal'aria.

May there not be some common product of the several chemical actions going on in these cases, ærial and of obscure nature and qualities, whose identity is proved by the identity of effects it every where gives rise to?

Animal Putrefaction.—History, both ancient and modern, offers us frequent instances of pestilence produced by this cause. The burial grounds of Paris, London and New-York, proved to be injurious to the health of the vicinity. The Catholic Churches on the continent, often require to be disinfected. The processes which immediately precede, and those which accompany or follow death, tend to generate a poisonous quality in animal matter. The flesh of diseased animals, is unfit to be used as food, and become injurious when so used—in one instance, a specific disease is thus communicated, "*milk-sick*,"—a gastritis. Among anatomists, a very severe and not unfrequently fatal affection, is produced by puncture and inoculation in dissection, with the scalpels, &c. imbued with the fluids of a subject. The absorbents inflame, and the glands, a cutaneous eruption comes on, attended with violent inflammatory fever and great prostration of strength.

Animal Poisons.—Divisible into two classes. 1st. Those which result from natural and healthy, but peculiar actions. These are secretions intended for attack or defence, as the sting of the bee, wasp, &c., the venom of the snake. 2d. Such as are produced by diseased processes—the milk and butter of a milk-sick cow, the saliva of a rabid animal of the feline or canine tribe, vaccine and variolous matter, &c. Some of these are contagious.

Contagion.—Defined to consist in a peculiar matter given out by a diseased surface, which possesses the power or quality of generating in a healthy body a diseased condition, similar to that whence it derived its origin.

To prevent confusion in the use of language, I would follow the distinction proposed by W. Philips, in which *contagion* is pointed out as the morbid poison, and *infection* as the act of communicating disease. Hydrophobia is contagious in the feline and canine tribes, but a human subject affected with it, is incapable of communicating it.

The matter of contagion may be either *palpable* or *impalpable*. Vaccine, chancre, gonorrhœa, psora offer examples of purely palpable contagions. These are transmissible only by actual contact of the morbid secretions, with some portion of absorbing surface.

Scarlatina, rubeola, parotitis, pertussis give out an imperceptible emanation, which affects the healthy subject, we know not exactly how.

Variola, plague, varicella produce a virus of palpable form, which is capable of infecting in both ways, either when directly applied, or after having become *impalpable* by solution, and diffusion in air.

Modes of infection. 1st. By actual contact or inoculation. 2d. By near approach. Contagions of mixed and impalpable character, are capable of infecting at a certain distance; which, from experiments carefully made by Haygarth, Russell, and others, would not seem to be very great. I suppose it to be somewhat influenced by cleanliness and ventilation, which must affect the accumulation and concentration of the contagious atoms. 3d. The mixed and impalpable contagions which are almost all febrile in origin and character, possess also, as I believe, the power of contaminating the atmosphere widely, and thus produce local epidemics—probably by effecting some peculiar change in the condition of the air. *Contagious* diseases often become, in this way, *Epidemic* also. 4th. By fomites. All forms and modes of contagion are capable of adhering to, and being absorbed by certain substances, which, by this impregnation, become fomites. Thus preserved, they are said to retain all their virulence. Bed and body clothes of woollen stuff are specially calculated to absorb and retain them; they are said also to adhere to the very walls of an apartment, the ceiling and the floors. The precautions to be taken are readily suggested.—Cleanliness—Washing with abundant water, and the use of lime, (the only specific disinfecter known) in some of its forms. The clothes of a physician, it should be always remembered, may by thus entangling contagious particles, convey them, and communicate disease.

The questions concerning contagious disease, are of very great importance as they bear upon the commercial, and ordinary intercourse of nations.

Superfluous regulations of a restrictive nature have often been stigmatized as *cruel*—the imputation will lie more properly against such as are *inadequate*. Every community has a right, and is indeed bound in duty, to establish its own quarantine regulations.

Some of the contagions are endowed with the property of destroying in a system once affected by them, the tendency, or disposition to a recurrence or second attack—thus variola, rubeola, pertussis, parotitis. From the singular fact that vaccine exhibits a protective influence in this ~~matter~~ to shield from, or at any rate to modify, small pox, some have inferred their identity, explaining the obvious differences, upon the conjecture, that the former, in a course of successive transmissions through the systems of the lower order of animals, as the horse and the cow, has undergone these alterations in external character and symptoms. The majority of contagions, and especially the non febrile, give no protection against second attacks, but may recur with indefinite frequency.

Parasitic animals should be classed among exciting causes of disease.—Some fanciful pathologists have attributed many diseases to animalculæ, as dysentery and psora. The ancient morbus pediculosus very rare.

Worms. The lumbricus is the principal, and is capable of producing in an infested child almost any form of disease, according to predisposition.—Ascarides and tæniæ give rise to peculiar symptoms.

DE SEDIBUS MORBORUM.

The fluids of the body preponderate very considerably, being in a ratio of 9 to 1 to the solids, as some physiologists calculate. This estimate I regard, however, as somewhat exaggerated.

The primary seats of the vitality of the different portions of the animal structure, are the Sensorial and Circulatory system. Every part of every tissue, depends immediately upon its nerve, and the blood sent to it, for its life, and these, the *nerves and blood*, are dependent upon each other. Each atom which is gifted with life, receives it from nerve and blood.

These, then, must be the primary seats of disease.

Diseases purely functional—as the spasmi generally, amaurosis—dyspepsia, may be said in the first instance to affect exclusively the sensorial system.

Structural diseases, on the other hand, affect the vascular system.

Sensorial and vascular derangement intermingle together, and produce each other.

There are *nervous* affections of the whole or part of the *circulatory* system, as syncope, palpitation and fever.

And *vascular* derangements of the whole or part of the *sensorial* system, as apoplexy, phrenitis, neuralgia.

Functional affections of *nerves may* run on into, or produce *vascular* and *structural* derangements. Too intense light, will occasion opthalmia.—Functional affections of the vascular system, by continuance, can scarcely fail to produce structural disorder, as in fevers, inflammations, &c.

It has been much disputed whether the fluids can ever be the primary seat of disease—no one can doubt that they undergo certain obvious changes in its progress. Whether any such changes are to be estimated as *among* the *primary* and *essential* circumstances, is the true question, and I am disposed to answer in the affirmative. The ancient advocates of the humoral pathology carried their views on this subject quite too far, attributing all diseases to alterations in the qualities of the fluids, some of which cannot be proved to occur at all, whether as cause or effect. But it is fashionable in the present day of exclusive solidism, to go equally far into the opposite extreme. Truth lies as usual in the medium. Chyle varies in quality, according to the food whence it is obtained. Blood must vary, also, as derived from chyle. Scurvy, and some cutaneous affections, are the direct result of confinement to improper diet. Blood is also liable to many and important changes of condition, referable to the more or less perfect performance of the function of respiration. That important diseases may thus arise, cannot be rationally doubted, which shall depend directly on the state of the blood. Typhus may take its origin in confined habitations as well as in impure, insufficient diet.

Diagnosis—consists in such knowledge of the seat, nature, and history of any given disease, as shall enable us, to distinguish it from every other. *Pain* will often point out the locality of disease. The *imperfect perform-*

ance of known physiological function, is, however, still more important as a diagnostic symptom. *Sympathies* of noted and recorded occurrence whether understood or not, often serve as valuable guides. But we are liable to be misled by each of these marks. Some important and dangerous diseases occasion little or no pain. Some painful affections, imply little or no danger. And the morbid sympathies which connect the organs are in numerous instances highly irregular and obscure.

The usefulness of pathological anatomy—the examination of bodies dead of disease, carefully considered.

It cannot, except in a very few, and properly accidental cases, teach us any thing of the *causes* of disease.

Among the *effects* of disease which it detects and developes, it cannot help us to distinguish between *incidental* and *essential* lessons of structure. As to *impediments* to *function* merely, it gives no information. Nor can it ever aid us in tracing the *primary locality* or *origin* of disease; nor in following up its effects in successive series of consequences. The true value of morbid anatomy lies in connection with observations carefully made and exactly noted during the progress of any given case, collated with reference to the cause of the attack, its mode of commencement, and its entire and minute history. By an observation of frequent or constant coincidences, we are taught to direct our attention to organs liable to become implicated in future cases of similar character. The physician therefore, should not neglect to unite these offices; he should take careful and precise notes at the bedside of the sick, nor consider himself as having performed all his duty until he has instituted a minute examination of the dead body.

The *tendency* of all disease is, to death or disorganization. The old dogma of the existence of a restorative power in the constitution, a vis medicatrix naturæ, combated.

The cessation of disease (unless when brought about by remedial treatment) attributed merely to the removal of the cause which produced it. Sometimes the *exciting* cause is taken away—at others, the *predisposition* upon which it acted disappears,—is, as we say, exhausted or worn out. The well constructed, admirably ordered mechanism of the animal body, resumes its natural action, when the impeding or disturbing influence ceases to act.

It is absurd to suppose disease to be in any case a *natural* or *spontaneous* action of the living body, or to imagine any principle prepared or provided to procure its removal—doubly absurd to suppose that such principle should act, such effort be exerted through, and by means of the very processes in which disease consists, and through which it developes itself.

Morbid causes produce death in two ways. Disorganization to a certain extent, is evidently incompatible with a subsequent resumption of the functions of any given system of parts. But, besides this, the mere *interruption* of an important function for a time is often fatal, without any lesion of any part or organ, as in suffocation from drowning, and in some cases of syncope, &c.

Death from disease, must vary in its attendant circumstances, with direct reference to the modes in which it is brought about.

Euthanasia, or death from old age, is owing to defect of action in the organs of supply, and the consequent failure of all the functions.

Death defined to consist in a cessation of excitability, the loss of the

capacity of being impressed by, and of reacting upon stimuli applied. The phenomena of death do not constitute that state; they may be all present when animation is only suspended, and the subject capable of resuscitation. Interment should, in all cases, be postponed until decomposition commences. Interment, in cities or populous towns, should be strictly prohibited—the ancient practice of burning dead bodies, ought, on many accounts, to be preferred.

PHENOMENA OF DISEASE.

Considered practically, Diseases are mere collections of symptoms, the proximate or common cause of which is exceedingly obscure, and difficult to be traced. These phenomena may, in this place, be considered in the order of the physiological systems and functions which they disturb or affect, and their rationale attempted to be given.

1st. Of the disordered conditions of the *Digestive system* and *function*—*Anorexia*, nausea, gastric oppression, *vomiting* of matter of various character and appearance, shew irritation of the mucous digestive membrane, and consequent vitiation of its secretions. Altered appearances of the *tongue* described, with the inferences to be drawn from them. When the surface is covered with a light thin white coating, a moderate degree of gastric derangement is present; if there be a thick yellow or brown fur, with a bitter taste in the mouth, the hepatic actions are disordered; a moist, soft, swollen tongue, with the edges indented by pressure against the teeth, denotes a disturbed state of the whole digestive tube, and sometimes accompanies sore throat. In most Fevers, the edges and point are fiery dark red, while the upper surface is furred. In the advanced stages of Typhus and of Dysentery often, and very regularly in those of gastritis and enteritis, the tongue is clean and red, and the appearance of papillæ lost in a smooth surface like that of the lip; in protracted cases, it sometimes becomes dry, cracked, ulcerated, coated with sordes. *Teeth*, discoloured, carious, painful, when the digestion is bad, covered with dark tenacious sordes in typhus. *Gums*—in Scurvy and the various Cachexies, spongy, swollen, disposed to bleed. Ulcers on the lips, cheeks and lining membrane of the mouth, denote gastric and intestinal derangement—this is a very common consequence of it among children.

2d. Of the *circulatory function*. Syncope the cessation of action of the heart. *Palpitation*, its convulsive action. The *pulse* derives its importance as a symptom of disease, from the almost universal sympathy, which extends diseased actions in other systems, so as to affect more or less the circulatory. The *pulse* of an infant newly born, beats about 140 strokes in a minute—declining from that time, the average adult pulse is about 75 to 80.

In health, the *pulse* is modified by a great variety of circumstances.
Idiosyncracy.—In some persons it beats 100, in others not more than 40.
Sex.—The female pulse is somewhat more frequent than that of the male.
Stature—In tall men it is less frequent, in dwarfs more so.
Muscular Exertion—makes it beat with great rapidity.
Sleep—makes it slower.
The *Passions and Emotions*—add to its frequency, and perhaps its force.
Temperature—Heat augments—Cold (continued) diminishes its frequency.
Diurnal changes.—The pulse is usually somewhat more frequent in the evening.

These agents affect chiefly the *frequency* of the pulse in health.

The *Healthy pulse* is *regular*—that is, the intervals between the strokes are precisely equal; it is *vigorous*.—that is, it resists with determinate opposition, the influence of force applied to compress it; it is *full*—that is, the artery is completely, but not unduly distended by its blood.

The systole of the heart occupies a given portion of time, contracting steadily without harshness or hurry.

A morbid pulse may readily be distinguished then by comparison.

It is *more* or *less* frequent—than in health.

more or less hard or resisting.

——————quick (abrupt or jerking.)

——————full.

Irregular. { in interval. / in force.

Intermittent.

These comparative phrases address themselves to the judgment, convey a definite meaning, and are easily remembered and referred to.

These several morbid qualities of the pulse may be variously combined, so as to offer a great variety; the attempt to give fanciful names to which, has introduced some disorder and confusion.

The oppressed—depressed—gaseous and undulatory pulses of Rush described.

Plethora, in strict propriety, always a relative term, implying a want of proportion between the quantity, or the stimulating quality of the blood, and the tone of the heart and vessels. Hence it is often met with in weak and debilitated constitutions.

I doubt the possibility of an absolute *Hyperæmia*, or undue abundance of blood.

Anæmia—The deficiency of sound or nutritious blood, often results from hemorrhagies natural or artificial, and from disease. The fibrine and red globules, would seem to be slowly supplied.

The *Blood* undergoes many changes in disease. Becomes buffy or sizy. This is usually explained on the supposition that its coagulation being slow the red globules fall to the bottom, leaving the yellow lymph on the surface; this explanation shewn to be unsatisfactory. Becomes incoagulable from great fatigue and extremely violent inflammation—in death also from lightning, and from a blow on the pit of the stomach, but remains florid or black, and does not assume a buffy crust. Blood is black in typhus; attenuated and dissolved, as the phrase is, in scurvy; loses its salts and serum in cholera.

Hemorrhage—a symptom more alarming than dangerous in itself, occurs in opposite states of the system—when active, less serious than if passive—in the former case, may have good effect, as a mode of local depletion.

3d. Of the *respiratory function*. This function, is closely connected with both the circulatory and sensorial, and partakes readily in any disorder of either. Dyspnœa and orthopnœa defined, and accounted for.

Cough, the most common symptom of pulmonary irritation, yet not always present.

Expectoration of mucus—thin, bloody, offensive, ichorous fluid—of pus—this may either be from an abscess, from the circumference of a tubercle, or from the unbroken mucous surface: it does not prove abscess or ulcer to exist.

4th. Of the *sensorial functions.* Pain is the most general symptom of disease—the expressions indeed being almost synonymous; yet, owing to the complexity of morbid sympathies, it, by no means, denotes of course the principal locality of disorder. The degree of pain depends upon the general sensibility of the patient, and upon the local sensibility of the part affected; it is also modified, both in kind and degree, by the nature of the case, so that it bears no regular proportion to the danger of the attack. The loss of sensibility, whether local or general, must augur unfavourably.

Permanent dilatation of the pupil is untoward as being probably occasioned by compression of the brain—permanent contraction by meningeal inflammation. Insensibility to light, as evinced by a fixed state of pupil, also unfavourable. Hallucinations of various kinds, amounting to delirium and to insanity, are more to be dreaded when low and gloomy, than if cheerful or violent.

5th. *Motory Function.* Great muscular prostration is always to be dreaded. Relaxation of the various sphincters, indicates a high degree of danger. Paralysis is still more unfortunate, whether of one half the body transversely divided—*Paraplegia*, usually affecting the lower limbs, or *Hemiplegia;* which is confined to the right or left side, and both extremities. Trembling of the head a common circumstance in the debility of old age —of the hands and tongue, often from intemperance. Cramps, or tonic contraction of particular muscles, result from many various irritations—are often connected with digestive disorder and uterine irritation. Convulsions and spasms more common in childhood, derived from numerous causes; in general, more alarming than imminently dangerous.

6th. *Excretory functions.* Very difficult to assign any rationale of the coldness and corrugation of the *skin* in ague, or the generation of so much cutaneous ~~head~~ in certain fevers,—most observable in yellow fever. Rush makes the remark, which is confirmed by my own experience, that a cool moist state of the skin in the disease just mentioned is indicative of great danger. Inordinate sweating the principal circumstance noted in the ancient fatal epidemic hence called Sudor Anglicanus. The perspiration undergoes changes of quality, as well as of quantity, assuming a yellow or brownish hue, becoming acid, and offensive in smell. The skin itself, *suffers* changes of colour, being yellow as in Jaundice—pale white, and semi-transparent, as in Dropsy—orange, in yellow and bilious fevers, and hepatic disorders and from intemperance—and livid, mottled and spotted, in petechial fevers.

The *urine* was of old regarded with special attention, and the most precise indications of the state of the patient supposed to be drawn through it. It becomes abundant and limpid in nervous diseases, as in hysteria and some head aches, scanty and high colored in fevers, loses its *urea* in diabetes, in one form of which it contains much sugar; deposits sediments of varying colour, under circumstances not exactly defined.

Much affected in dropsies,—containing varying proportions of serum, &c.

Strangury—unfavorable in the commencement of fevers, favorable in their advanced stages.

Total suppression, declared by most, to be a fatal symtom. I have, however seen recoveries after it.

The *Alvine Excretions*—offer important observations in warm climates especially. Much influenced by the states of the liver, as well as of the intestinal canal. Long continued impediment to the process of fœcification, or the remarkable stercoraceous change undergone by the ingesta, always denotes danger. Clay coloured stools show torpor of the liver—vitiated secretions of bile, color them dark green, and make them offensive and acrimonious. They are black under some particular states of enteric imflammation, as in yellow fever, containing floculi or granulæ of black color. In dysenteric irritation they are mucous, and bloody, and sanious. A peculiar pink colored, highly offensive ichor, shews instant danger, being occasioned I believe by actual gangrene of some portion of the mucous membrane. This may come away also, in small flakes in the stools—or portions of fibrine or coagulable lymph. In dysentery, we meet also with scybala; these are sometimes described, as lumps of hardened fœces, at others, as consisting of caseous, or of fatty matter.

In children the stools are often acid and green, at times, serous and colorless. Purulent matter may come away from the intestines, either when ulcerated or highly inflamed.

The *countenance* of the patient should be remarked, as expressive of his condition. Any obvious change is unfavorable. The countenance of malignant fever is always notable.

"Risus Sardonicus" described as a grim, sarcastic smile, produced by involuntary contraction of the muscles of the lips and cheeks. The "Hippocratic countenance," consists in hollow sunken eye, pinched up nose, fallen temples, tense pale forehead, lividness of face; universally, as far as I have observed, the forerunner of death.

The *Decubitus or Posture* in bed.—Inability to lie down unfavorable,—so is confinement to either side—lying on the back, with knees drawn up, and sliding to the most depending part of the bed, shew great debility. Restlessness and jactitation, bad symptoms; it is worst of all, when the patient expresses an anxious desire to move from bed to bed, and from one room to another.

General rules given, for the examination of the patient.

Periodicity—the tendency to periodical revolution, one of the most remarkable phenomena of disease.

Diurnal Revolutions observable both in health, and disease, as may be noted in the pulse, and in general in all our habits and customs. They are likewise obvious in all fevers, continued, remittent and intermittent. Continued fevers, show some abatement in the morning, and augmentation in the evening. Remittents, refer to the types of intermittent with which they are most closely connected. Intermittents have their special hours of access: the quotidian in the morning, the tertian, a little before noon, the quartan in the afternoon.

Septenary Revolutions are not less clearly distinguishable. The menstruation of the human female, occurs regularly on the 28th day—its anticipations and postponements are usually of 7 or 14 days. The relapses of fevers occur at the same periods usually.

The first I attribute to Insolation, the influence of the Sun. The second, in like manner to Lunation, the influence of the Moon.

The combined influences of the two, liable, perhaps to other complica-

tions more obscure in their nature, will account for all the types of fever, and all the phenomena of periodical repetition of disease, as well as of crisis, or the agency of Critical days.

The *Condition of Convalescence* briefly described as one of extreme mobility and susceptibility, and as requiring the special notice and attention of the practitioner.

MODUS OPERANDI OF MEDICINES.

Medicines have been enumerated among the *causes* of disease; they all produce it in the sound, or healthy system, how is it then they effect in the sick, the restoration of health? There is no such power existing in any known agent, as shall be displayed in the mere production or increase of vitality, or healthy action, in an animal body; nor is there any thing in nature, properly deserving the title of Antidote, except in reference to its chemical affinities. Medicaments then must be useful by an indirect agency; their effect being always regulated by, and dependent upon the condition of the recipient.

The immediate influences exerted may be arranged under the following heads.

1st, *Abstraction*—darkness, silence, fasting, recumbent posture, cold, the lancet, leeches and cups, cathartics, diuretics, &c. &c.

2d, *Stimulation*—wine, alcohol, bark, opium, electricity, heat, &c. &c.

3d, *Revulsion*—the most important perhaps of therapeutical principles. The use of cathartics in fever, of these and emetics in inflammation, of the lancet, leeches and cups, (as properly under this head, as the first,) of sinapisms, blisters, acupuncture, &c.

4th, *The Homoiopathic Action*—as exemplified in the application of belladonna in scarlatina;—of vaccine to prevent or modify, small pox; of emetics to remove nausea—and of catharties to cure diarhœa. Yet Homoiopathists reject altogether, and protest against the doses ordinarily employed by the other schools, and exult in the discovery, that the most beneficent effects, can be procured from atoms, or indefinitely minute portions of medicines; exhibiting the thousanth part of a grain, or of a drop of our common drugs.

5th, *The Contra Stimulant Influence*—exhibited best, perhaps, in the use of very large doses of opium in tetanus, and of antimonials in intestinal spasm. The Italians of the contra-stimulant school, are found in the opposite extreme, to the German practice of Hahneman. They administer boldly, the most enormous quantities of the remedies indicated, with the purpose of combating directly the force of morbid impressions made upon, or morbid actions going on in the system.

6th, *The Alterative Effect*—such as we attribute to mercury, and the metallic preparations generally—to the mineral acids also, and indeed such as may be obtained from a great number of medicines, as guaiac, iodine, camphor, cathartics. By the word alterative I would mean the substitution of the effect of the medicine, for the effect of the originally acting cause. To be regarded as an alterative, a medicine must be capable of producing then, a forcible impression, which may be kept up at will, by its continued exhibition, and which shall readily subside, on withholding it. By the combination of these powers, its value is given.

It is doubtful whether the three last modes of action may not, with propriety, be all resolved into the form of Revulsion.

The modes of administration by which we apply our ordinary remedies, are four, viz. 1st. By the prime viæ or surface of the alimentary canal. 2d. By the cutaneous surface. 3d. The pulmonary surface. 4th. By introduction into a vein, or insertion into a wound.

There are, besides these, some mechanical, and in a certain sense, chemical remedies, not directly referable to either of the above heads as friction, percussion, acupuncture, electricity, and galvanism.

Medicaments may act when applied in either of the above modes.—1st. Upon the extremities of the nerves immediately, and through the sensorial system upon the whole body. 2d. By introduction into the circulation and actual mixture with the mass of fluids.

Instances of the first kind may be found in the *instantaneous* death which follows the swallowing a large quantity of alcohol,—the same result is produced by touching the eye or tongue of an animal with strong prussic acid—and in the effects of stimulating volatiles upon the body through the olfactory nerves.

The latter, I believe, is common in the agency of our ordinary medicines. The effects of medicine, introduced into the stomach, are exactly similar or identical with those which they produce when injected into a vein. Opium, dissolved and thrown into a vein, produces sleep and stupor, —ipecacuanha vomiting—jalap and castor oil purging—and arsenic more readily brings on gastric inflammation when inserted into a wound, than when swallowed.

It is only on these tissues or systems, the *vascular* and *sensorial*, that medicines can act primarily. They affect the first, by actual admixture with the circulatory fluids. They affect the sensorial system by a direct impulse or impression upon the extremities of the nerves, which we do not understand, and cannot describe. They are separable, then, fairly into two classes, as they affect one or the other of these systems.

Friction,—percussion,—acupuncture—act upon the nerves directly subjected to their influence. These they irritate, vascular determination ensues, (ubi irritatio ibi fluxus) and thus prove remedial on the principle of revulsion. Acupuncture is maintained, by many theorists, to owe its efficacy to electric impressions. Electricity and galvanism seem to exert as pervasive an influence over living, as upon inanimate matter, and act with wonderful force upon all the solids and fluids of the living body. They are stimulants of high value and general adaptation.

The operation of each and every medicament, is specifically directed upon some particular organ of the body. Besides this specific operation, which it has a tendency to produce under all circumstances, there are other influences which may be derived from it, depending either upon the quantity employed, or upon the condition of the recipient.

1st. *The Direct or Specific Operation of Medicines*—we see in the emesis from tart antimon and ipecac—in the sleep and stupor from opium, in the dilatation of the pupil from belladonna, &c. We may even point out more minutely, distinctions as to the modes of effect, when their action is upon the same organ, thus ergot causes the uterus to contract, affecting its fibrous structure—guaiac acts upon the secretory vessels, causing them to pour out their due fluids—cathartics act differently on the bowels.

2d. *The Indirect or Consecutive*—these may, or may not, include

3d. *The Poisonous.*

Among the *indirect* effects of medicines, those namely, which depend on dose and condition of subject, we may mention the emetic effect of castor oil, of calomel—the catharsis from the latter, the diaphoresis from antimonials.

There are some medicines of which we know no *poisonous* effect, properly speaking, as of bark, ol: ricini, calomel, &c.; while others readily exhibit such an influence as opium, alcohol, iodine, prussic acid; it is one of the triumphs of our art, to be able to regulate the indirect influences even of these, so as to educe beneficial results.

In regard to the effects of medicines, one important observation should be kept in mind by every practitioner. That certain of the most powerful and valuable articles of the materia medica are *accumulative* in their operation, and thus become dangerous. Thus mercurials shall sometimes, when administered in repeated doses, seem inactive, exhibiting no obvious effects until at once we have ptyalism, ulceration of the lining membrane of the mouth, and caries of the teeth—the system having become, as it were, slowly saturated with it. Thus it is with arsenic, and thus also among others with digitalis. The first shall be given in vain, as it might appear, for some days, when on a sudden there will be pain and disorder of stomach, with great prostration and swelling of the face and eyelids.

Digitalis will, at times, act neither as diuretic, nor in any other way, until its administration being persevered in, vertigo comes on, dim vision. intermittent pulse, palpitation, and perhaps coma and convulsions.

SYLLABUS.

PRACTICE.

NOSOLOGY.

Some classification and arrangement are essentially necessary to assist the progress of learners in all sciences.

It has been found difficult to agree upon the principles on which diseases shall be arranged.

I prefer to all others the *Physiological Nosology* which distinguishes the tribes of diseases, according to the SEATS which they occupy; the ORDERS of parts (or systems) which they affect; the FUNCTIONS which they disturb or impede.

I shall treat of them in succession as they affect—

I. The Circulatory organs and their functions.
II. The Digestive.
III. The Respiratory.
IV. The Sensorial. This class nearly coincides with the "Neuroses" of Cullen, Parr, &c.
V. The Motory—comprising the diseases of bones, joints, muscles, tendons, ligaments.
VI. The Generative.
VII, The Excretory—comprehending the cutaneous affections, those of the urinary organs, and the local diseases of the large intestines.

PRACTICE OF PHYSIC OR THERAPEUTICS.

Before attempting the cure of a disease, it is necessary that we should carefully distinguish it from every other; the Diagnosis, then, of every case, must be considered separately in this relation.

1. The *Diseases of the Circulatory System* are of paramount importance, and require our earliest attention. I proceed to treat of those which are hereafter most frequently to come under your notice, in the following order. Fever, Syncope, Angina Pectoris, Hemorrhage, Hydrops and Scrofula.

It is impossible to enter properly into the consideration of these topics, without premising a few remarks on *Inflammation*, which either as cause or effect, as coincident or consequence, is so generally combined with the principal forms of circulatory or vascular disease.

INFLAMMATION.

Its *seat* maintained to be in the Capillary System—the nutrient and secretory arteries, the vasa vasorum. Its nature unknown. Much dispute as to the question of *increase* or *diminution* of excitement, and action, in inflammation. It does not depend upon, nor consist, in degree of action; yet, it would seem, that there is always, at least in the first instance, increased action. The smaller vessels like the heart, are endowed with the power of expansibility—the capacity of active dilatation. We cannot otherwise account for the phenomena—for it is absurd to suppose the heart or larger vessels capable of elective propulsion or determination of blood to any particular part of the body. The minute vessels then expand in the production of inflammation, as they do in blushing—redness from friction and stimulants; but there is some superadded essential condition, or blushing, would be inflammation.

There are two conditions or states of a part, which precede or give rise to inflammation. The most common is *Irritation*—a term which implies ~~some~~ organic excitement ~~also~~ of the nerves of the part, and has been used by some pathologists as synonimous with inflammation. The second is *Congestion*—where there has been from whatever cause an undue proportion of the sanguineous fluid forced into the structure of any organ thus engorged, or unnaturally distended—as in inflammation of the liver, spleen, and other internal viscera, from the concussions of intermittent fever, or the shock of cold applied to the surface. It is almost superfluous to remark, however, that neither of these is of necessity followed by inflammation. The internal organ may disgorge

itself and return to a natural condition; the irritated part may be soothed into tranquillity without any exhibition of vascular excitement; or this may be so temporary and transient, as not to deserve the name of inflammation. The redness from slight friction on the surface, or from acupuncture, is not inflammatory any more than the vascular excitement of the whole system from wine or exercise, is properly fever.

All inflammation is in nature *morbid*, as we know both from the symptoms and the results. Surgeons recognize a healthy inflammation, but the phrase is rude and unscientific. Union of opposite surfaces by the organization of effused lymph or fibrin, is made incidentally useful in surgical operations, as for the cure of hydrocele, artificial anus, &c.; but can no more be called healthy inflammation, than that which unites the pleura costalis with the pleura pulmonalis—indeed they are absolutely identical. Union by the first intention, has been attributed to inflammation, but incorrectly. The vessels of divided surfaces are placed in apposition, so that circulation goes on, and among the other functions, restoration is effected by the deposit of nutritious matter from the vessels. A finger or piece of flesh being *cut off* and replaced, sometimes adheres. But in this case *union must precede inflammation*, or only one surface can inflame. Indeed inflammation impedes the occurrence of union by first intention. It occurs always to a certain extent no doubt, but merley as a coincident effect of the violence applied to a living body. Inflammation formerly attributed to spasm of the vessels—error loci of part of the blood, lentor or inspissation of that fluid. It is probable that spasm of the excited vessels does take place; that is, that they act more or less irregularly or convulsively when thus irritated. Error loci we know to exist, for the red globules are seen in vessels which did not previously admit them; but this is an event or consequence of inflammation rather than a cause. There is no proof of lentor or Inspissation of the blood. The circulation in the part, so far as we know, is not obstructed notably.

The general symptoms of inflammation are the same, whether its seat be internal or external—Pain, Redness, Swelling, Heat, Throbbing. The *pain* differs in kind and degree according to the structure of the part affected, its sensibility, and the general sensibility of the patient. It is in proportion to the suddenness and extent of the changes which take place, being of course greater in acute than chronic cases. It results from the excitement of the vessels of the nerves, which, by their dilatation, produce tension and pressure on the nerves.

The *redness* and *swelling* are easily accounted for by reference to the vascular fulness and determination which exist. The *heat* of the part is somewhat heightened, as depending on the vascularity of the part, and the form and fulness of local circulation. It never can be higher than the heat of the interior of the body, and is most notably increased at the farthest point from the heart. *Throbbing* results from the admission of a forcible current, impelled by the heart into vessels which were before too small to admit of such impulse.

The *local effects* of inflammation are modified by the structure of the part in which it occurs, and by the nature of the cause which has produced it. In illustration of the first, we may refer to what are called the terminations of inflammation of the Serous tissue—these are most commonly adhesion and dropsy—sometimes purulent effusion—rarely ulcera-

tion In inflammation of Mucous tissue, we have very commonly purulent secretions and ulceration—rarely adhesion, &c. In the Skin erysipelas and phlegmon—in Parenchymatous masses, abscess and schirrhus. The modifications from cause are still more marked and precise. In certain predispositions we have arthritis, cancer, &c—each peculiar. From certain morbid agents we have specific modes of inflammation, as upon the application of arsenic, tart antimon, lytta, &c. Sphacelation seems to be determined, for the most part, by the *intensity*, rather than the *nature* of the cause. It may be defined as a species of disorganization, of which death is a necessary consequence. Disorganizations are effected (as in scrofulous and schirrhous degeneration) without depriving the part of its vitality, and death may occur without disorganization. Sphacelus implies a union of the two circumstances.

Inflammation may, or may not, be attended with the excitement of *general febrile disorder*. After wounds and injuries, especially in vitiated constitutions, and at an interval undetermined and varying, fever is apt to come on with shivering or without it, the skin becoming hot and dry, the pulse hard, frequent and quick, the face flushed, and the eyes red, with headache and perhaps delirium. This is one of the types of Symptomatic Fever, assuming a Continued form, that is, without intermission or regular and definite remission; it is closely analogous to, if not identical with, the febrile derangement, connected with the long list of internal inflammatory diseases, hence called pyrectic, as Pleurisy, Gastritis, &c. In these latter, the fever supervenes usually with great promptness soon after the invasion of the disease. Hectic, the second of the types of Symptomatic Fever, is Intermittent, and attends protracted inflammation both internal and external. It shall receive special notice hereafter.

In the general treatment of inflammation, we refer to *three* modes of remedial management. 1st. By abstraction of excitement, V. S.—Leeches—Cold—Low Diet—Purgatives—Emetics—Nauseants, &c.

It is under this head chiefly that I would include the agency of *Opium* as a remedy for inflammation. The first step in the lighting up of inflammatory disease is, often a mere irritation, which is capable of being entirely subdued by the anodyne and soothing influences of this most valuable drug. In its farther progress too, inflammation is liable to be aggravated by pain, which is the result of morbid excitement of the nerves of a part; and this can often be allayed promptly and entirely by opiates. The state of sleep which they so admirably induce, is singularly adapted to promote the subsidence of all undue action of any of the organs, and especially of the brain, whose agitation so readily disorders every fibre of the system, and whose restored tranquillity is so often the harbinger of general repose.

From opium, also, we may obtain by proper management of its indirect operations, very great benefit as a diaphoretic, and as a most impressive stimulant—but these effects are referred to under the following heads:

2d. Revulsion, as by V. S.—Purgatives—Diaphoretics—Stimulants—Sinapisms—Epispastics, &c.

And 3d. By alterative influence, as in the mercurial treatment, and in the substitution of a new and transient form of inflammation, as when we apply a blister to erysipelatous surfaces, and arsenic to a cancerous ulcer, and stimulants generally to indolent ulcers and chronic inflammations. In strict propriety, perhaps these are but modes of revulsive affection.

FEVER.

The phenomena of fever, prove the co-existence of two prominent conditions;

The coincidence of *diminished energy of the sensorial*; with

Morbid excitement, and *increased action of the circulatory system.*

This combination, in which it is difficult to denote the first link, forms the *proximate cause of fever.*

It is probable, that the earliest disturbance of the function occurs in the extreme vessels, the nutrient, and secretory, and excretory, denominated the *capillary system.*

Fevers, properly divided into Idiopathic, and Symptomatic. The distinction intended, is generally recognized in marked cases, as when we refer on the one hand to fever from local injury, succeeded by inflammation, and on the other, to the regular recurrence of an habitual quartan. Certain intermediate instances are often dwelt on, in which the peculiarities of these classes are much softened down, as in pleurisy, dysentery, &c. The best definition therefore, which can be offered, is that which connects Symptomatic fever essentially, with some *obvious, regular,* and *early local inflammation*—Idiopathic fevers, being such as do not shew distinctly any such connection. The latter head will then comprise Intermittents, with the exception of Hectic, Remittents generally, and among the Continued fevers Typhus, Catarrhal Fever and Pneumonia Typhoides. Examples of the true Symptomatic Fever are given in Pleuritis, Hepatitis, Phrenitis, Gastritis, Enteritis, the Exanthemata, &c, with the Inflammatory Fever which occurs immediately, after a severe injury, and the Irritative or Hectic, which comes on later. Most of the above are however arranged in preference according to the *locality* of their *characteristic* phenomena as Phrenitis, &c. and the Exanthemata.

It has been much disputed, whether the first step in the formation of fever is the production of debility, or of irritation. The true nature of *incipient* febrile action, is unknown. A *majority* of the *remote causes* of fever, it is true, are of a stimulant, or irritating, or exciting quality—but not all—Typhus, the "famine fever" of Ireland, is the result of agents of opposite tendency, and large losses of blood are very apt to be followed by fever.

Cullen's definition of fever examined. Fevers do not always *begin* with a *cold stage.* When they have so commenced the animal *heat* of the surface is not always *augmented.* The *frequency* of the pulse is sometimes *diminished.*

Nothing is more strongly characteristic of fever than the general *diminution,* and *depravation* of the *secretions* of all the surfaces and glands, hence the thirst, the clammy mouth, furred tongue, nauseated stomach, constipated bowels, harsh dry skin, paucity of urine which is high colored, &c.

The ancient notion of the tendency of Fever to run a certain course and subside spontaneously, objected to—its curability maintained, and the per-

turbing system of treatment zealously vindicated. Fever occasionally cut short by venesection, emetics, cathartics, cold bath, mercurials, &c.

The doctrine of Critical days, disputed. Crisis defined as a sudden and notable change occurring spontaneously in the course of fever, and exhibiting a remarkable influence on its character and termination. The change may be either favorable or otherwise. The question is, whether these changes are to be expected on certain calculable days. These days if we collate the writings of the principal and most zealous supporters of the doctrine, are the 3d, 4th, 5th, 6th, 7th, 9th, 11th, 13th, 14th, 15th, 17th, 20th, and 21st, thirteen days in twenty one; the non-critical days are the 8th, 10th, 12th, 16th, 18th, 19th, six in number. We cannot wonder then, if, as is asserted, a majority of crises do occur on the so called critical days. The weight of authority is pretty equally divided on this point. The regular observance of the *types* of fevers, all which, refer originally to the intermittent form, however obscurely, I think has been the cause of the belief in critical days.

The diurnal and septenary revolutions have been spoken of; to the combined influence of these, I attribute the types of fever. *Continued* fevers usually have reference to the quotidian intermittent.—*Remittents* to the tertian with its modifications double and triple, and perhaps sometimes to the quartan.—Remittents when they become *obscurely remittent* by protraction, running, as the phrase is, into a continued type, exhibit in a rather indistinct way this reference to intermittent type, and these imperfectly marked references have been called *crises*.

The *Remote Causes of Fever* shall be enumerated under each specific head.

The *Effects* of fever, the local derangements developed during its progress, and displayed in post-mortem examinations, vary both with predisposition and exciting causes.

The Brain in its substance and upon the membranes which envelope it shews vascular engorgement, and sometimes the results of inflammation.

The Mucous membrane of the Stomach and Intestines, suffers various lesions from similar inflammatory determination, and other modes of derangment.

The Pleura and Peritoneum are also attacked—the Lungs and the mucous lining of the Trachea. The Liver, especially in warm climates, is often notably altered in appearances, being increased in size, in weight, &c. &c.

These local affections are not necessarily inflammatory, they are congestive, perhaps as often.

In Crampton's account of a Dublin epidemic, the following estimate of the relative proportion in which the organs were affected, is given. Out of 755 cases, 76 were of the abdominal viscera, 129 of the chest, 550 of the head. Among us, owing to influences of climate and determinations thereby given, the proportions would be reversed. Here the Abdominal viscera are chiefly affected (the Stomach and Liver,) next the Head, lastly the Chest. I believe the former never escape derangement in the warm months.

Fevers divided into *Intermittent, Remittent, and Continued*. These types are fairly distinguishable, although there are cases in which the distinctive marks are very slight.

An *Intermittent* presents repeated paroxysms of fever, with intervals between of absence or apyrexia.

A *Remittent* is characterized by *notable* and *regular* exacerbations, and diminutions of febrile excitement, there being no complete apyrexia, but an observable approach to that state.

A *Continued* fever is so denominated when there is no notable or prominent difference at regular periods in the degree of febrile intensity. The influence of diurnal revolution is however, generally observable, there being slight morning remissions, and evening exacerbations.

OF INTERMITTENTS.

Intermittents assume various *types* according to the periods they occupy. They are divided into three *stages*—the cold, the hot, and the sweating. The whole time from the commencement of the cold stage of one paroxysm, to the commencement of another, including the interval of apyrexia, is technically styled the paroxysm of an intermittent.

1. The Quotidian occupies 24 hours in this way, returning daily.
2. The Tertian 48 returning every second day.
3. The Quartan 72 returning every third day.

Each of these has its usual hour of access, and its relative duration and violence of stages. The Quotidian comes on in the morning, has the shortest cold stage, but the longest exacerbation or febrile excitement, continuing about 18 hours; interval about six.

The Tertian comes on, about, or a little before noon, duration about 12 hours; its interval is long.

The Quartan attacks in the afternoon, with the longest cold stage has the shortest duration; continues seldom more than nine hours.

These are the original types, which are variously complicated; we have the *double tertian*, the attacks on alternate days corresponding in time of access, violence, duration, &c.

The *triple tertian*, two paroxysms on one day, and one on the alternate.

The *double quartan* and the *triple quartan* are also mentioned.

The *Paroxysm of an intermittent* described. The *cold stage* marked by the following symptoms—languor, muscular feebleness, yawning, stretching, and sighing, paleness of the face, with lividity of the lips and ends of the fingers, shrunken countenance with cutis anserina, a sense of chilliness increasing to violent trembling and shiverings of the whole body, uneasiness at stomach, amounting to nausea sometimes, and vomiting. Pain in the head, and over the back and limbs, pulse small, and feeble, and quick.

Hot stage. The chills alternate with flushes of heat, gradually pervading the whole surface which is glowing and dry, pains in the head and limbs increase with turgidness and redness of the face and eyes, vomiting goes on, and bilious matter is thrown up mixed with mucus and other contents of the stomach, there is thirst, and the pulse has become frequent, full and hard.

Sweating stage. After some time a moisture is felt upon the forehead, breast, and arms, which progressively extends over the whole body, and the sweat flowing freely, the symptoms above enumerated go off leaving the patient weak.

Masked or *disguised* intermittents—present instead of the above regular succession of phenomena, some single symptom of great intensity, occasioned by morbid determination to, or affection of some part, as of the eye, the stomach, the brain, &c. We distinguish these by their periodical recurrence and regular abatement, and the previous exposure of the subject to the causes of intermittents.

Causes of Intermittents. Malaria the principal. May arise from alternations of temperature, moist clothing, fatigue, &c.

General prognosis. Favourable, allowance being made for their obstinate tendency to recur, the season of the year—vernal being more easily curable than autumnal attacks,—and climate. In hot and moist countries, as on the coast of Africa, intermittents put on often a malignant and fatal character.

And in very damp districts of more northern latitudes, as in Holland and England, (Lincolnshire) though less immediately destructive, they are tenacious and sometimes fatal.

Special prognosis. Favourable. Mildness of symptoms, postponement of time of access, completeness of apyrexia. *Unfavourable.* Extraordinary violence, anticipation of period of access, unpleasant feeling and uneasiness during apyrexia, coma in cold stage, with difficult breathing, delirium in hot stage, great exhaustion while the patient sweats.

Effects of Intermittents. Patients sometimes die in the cold stage, from congestive determination to vital organs, the brain and lungs; they may sink exhausted, (though this is rare) at the close of the sweating stage, or when the vomiting has been severe. Enlargements of the liver and spleen—are the most common consequences of the repetition of paroxysms of intermittents; these may be either indolent or inflammatory; dropsies, jaundice, hepatitis, dysentery may also be mentioned here.

Treatment of Intermittents. During the cold stage, external heat to the extremities and general surface, sinapisms, opium highly extolled, the tincture preferable, camphor may be combined with it. If the stomach be oppressed, a quick emetic. The tourniquet has been applied to the limbs by Kellie. The lancet has been used of late freely by McIntosh and others. Its effects doubtful, if not dangerous.

During the hot stage—if special determination to the head in robust subjects, the lancet may be used,—cold applications,—water poured on the head; and in proper subjects, the cold bath employed in this stage to advantage; a cathartic may be given, diaphoretics, assisted with cooling drinks; opium administered by Lind, of great utility in feeble, old, habitual cases.

In *Intermittents of malignant* character, the symptoms of overwhelming congestion and of typhoid prostration, must be met by a resort to stimulants of the highest power. Sinapisms and other modes of external irritation, brandy, ether, and laudanum internally, in no timid doses. The stimulating diaphoretics, camphor and the vol alkali, with hot wine whey, and stimulating enemata are also of use here.

During the intermission. Cinchona is our most important remedy. The only objection to its employment, consists in the inflammatory determination kept up sometimes to some organ as the liver, spleen, stomach, lungs, brain. This being subdued, it should be freely resorted to. It is given in substance, in infusion, tincture and extract. The *sulph. of quinine* extracted from it, is a medicine of inestimable value, on account of the concentration of valuable tonic powers; dose 1 to 3 grains every two or three hours. Larger quantities excite the stomach and determine to the head.

Piperine—shews its best influence in combination with quinine. It is too much a stimulant to be used throughout the apyrexia, but may be added

with much advantage to the dose of quinine, just before the paroxysm is expected. It forms thus a very useful combination.

Serpentaria—not valuable alone, but useful in combination with cinchona.

Sulphur—second only to bark in the cure of intermittents, and particularly serviceable, as it may be given when bark ought not, in cases of imperfect apyrexia. Is well applied in all masked intermittents—when mingled with cinchona, forms an impressive combination.

The *carbonate* and *prussiate* of iron, and the sulph. of zinc,—are highly recommended.

Arsenic—a very powerful remedy; it should be cautiously administered; —best adapted to the most obstinate chronic habitual forms of intermittent.

The above means failing, the patient should be subjected to a mild mercurial treatment, or sent to take a long journey, or a sea voyage.

OF REMITTENTS.

BILIOUS REMITTENT FEVER.

Belongs especially to warm climates; produced almost exclusively by malaria, aided by the occasional or exciting causes formerly enumerated, heat and alternations of temperature, moisture, &c. Strangers from cold countries, or from upland districts, are predisposed to its more violent forms, and should carefully avoid the adjuvant agencies which bring it on or aggravate it—should live temperately, but not abstemiously—shun extremes of temperature, dampness, dews, night air, &c. Blood-letting, purgatives and mercurials objected to as prophylactics. They predispose by reducing the system and rendering it susceptible.

Symptoms. Commences sometimes with, and often without a rigor or chill; then follow languor and weariness—gastric uneasiness—pains in the head, back and limbs—skin becomes hot and dry—pulse full and bounding, and abrupt and frequent—restlessness—vomiting—thirst—tongue at first white and lightly coated; soon covered with a thick yellow or brown fur—its edges red and indented as if swollen and prest against the teeth. Bowels constipated—stools, when obtained, greenish and acrid. The exacerbation continues about 12 to 18 hours.

Remission or abatement of symptoms, then takes place in a greater or less degree. The return of exacerbation refers to the tertian period of access, at, or a little before noon—observing the double tertian type in the correspondence of alternate days. Cases not unfrequently occur bearing analogy to the Triple Tertian, when we have on one day two exacerbations and on the next but one. In the exacerbation, if the disease is not checked, the vomiting becomes more frequent—there is heat at the epigastrium, and pain on pressure—the headache is intolerable—the eyes cannot bear the light. The tongue is dark brown, black along its central line—dries, is chapped or cracked. The bowels are costive, or the stools thin and watery. Respiration is more and more embarrassed with sighing—restlessness—the pulse sinks, becoming small and feeble. There is great prostration, with muscular twitchings; the fatal termination occurs in from 7 to 13 days—average about 9.

Typhoid state or stage. After many repeated exacerbations, the patient sinks sometimes into a condition thus designated, in which the symptoms resemble those of typhus. It more frequently happens among old residents, the termination taking place more promptly, (whether favourably or otherwise) in youth and strangers. The disease may be, in this modified form, prolonged to 30 and 35 days; average 15 or 20.

Malignant Remittent. The skin cold and clammy—countenance pale and livid and shrunk, pulse frequent and fluttering—low delirium or stupor, syncope—sometimes painful local affections, of the head, stomach or bowels. Fatal rapidity in many cases, one or two exacerbations destroying the patient.

General prognosis in Bilious Remittent. Favourable. Proportion of deaths throughout the south and west, as small as in any part of the world In our own city, not more than one in 30 or 40, perhaps even less.

Individual prognosis. Favourable when the remissions are distinct and prolonged, with tranquil sleep and sweating; if the bowels are moved easily and the evacuations assume fœcal appearance and quality—if the stomach become quieter, and the tongue cleaner and less red.

Unfavourable when the remission is imperfect and short—when the stomach is specially irritable—when there is much wandering of mind or delirium; inordinate frequency of pulse is a bad symptom—recoveries are rare when it transcends 130 or 140; so are great tenderness of epigastrium or tympanitic swelling, with or without vomiting, obstinacy of intestines, laborious breathing, coma, subsultus, fatuity, &c.

There is considerable liability to relapse. This is to be dreaded when digestion is weak, tongue furred or red, bowels irregular; occurs more frequently on 7th or 14th day.

Effects of remittents. Run sometimes into intermittents. Give rise to jaundice, dyspepsia—pulmonary complaints, when there is predisposition—enlargements of liver and spleen, hepatitis, splenitis, dropsies.

Necrotomy. The vessels of the brain and its membranes engorged, those of the *gastro enteric mucous membrane*, in similar condition. The spleen and liver enlarged, discoloured, full of dark blood, heavy, indurated sometimes, at others softened and brittle. The bile discoloured and vitiated, tenacious, floculent, granulated.

Treatment. The first indication both in point of importance and time. is the reduction of the *force* of morbid excitement. This may be effected by the following remedies:

Venæsection. Not a general remedy. Adapted to cases of robust, plethoric strangers; to cases, also, in which at the invasion, or during the early stages of the attack, the *local determinations* are specially *violent and painful*, as when there is delirium or mania, or coma, or great epigastric tenderness, &c. When resorted to, should be employed freely, the blood permitted to flow until the pulse yields. And in precisely the same cases, local blood-letting by cups and leeches, will be found useful after venæsection.

Cold bath. May be considered a general remedy. Contra indicated by feebleness from age, or other circumstances, by a moist skin, by chilliness. Should not be repeated if it produces a continued sense of coolness. Affusion preferable—next immersion. Its value, as a remedy, cannot be exaggerated.

Emetics—not often called for. If the stomach be oppressed, with imperfect vomiting, may be useful both by cleansing it, and by determining to the skin and bowels. Should be abstained from if there is pain at the epigastrium, increased on pressure. The antimonials are in general preferred.

Cathartics. Absolutely necessary in the treatment of Fever. Great care must be taken to choose the least irritating and most efficient. I would avoid the combination so generally used in the southern country in domestic practice and on plantations, of drastic Purgatives with harsh Emetics. I would select such articles as cause least nausea or griping. Calomel, Pulv. Rhœi, and the Epsom Salt, may be given so combined and alternated, as to produce all the good effects which we can hope for. from

the evacuation of the Bowels, and the disgorgement of the Liver, and the abdominal viscera; and may be prescribed in such doses, and at such intervals, as to keep up a permanent and highly salutary determination to the Intestinal Canal. But it is not necessary to persevere in what is termed Active Purging; and if the Bowels yield readily, we should discontinue the exhibition of Cathartics, and resort to such other remedies as may be indicated. Much harm may be done by urging the use of Purgatives too far, especially if there be much nausea and vomiting, with great epigastric tenderness, and the stools are frequent and small and mucous, and attended with pain, or griping, or faintness, or vomiting. Yet, on the other hand, it is an error more mischievous, to neglect entirely this very valuable class of Medicines, and to leave the patient to suffer all the unmitigated evils of abdominal congestion and engorgement, and the irritation of accumulated morbid secretions in the Alvine Canal.

The Mucous Intestinal surface, is one to which revulsive determination may be excited very safely, and to the great relief of more important and delicate organs. Its secretions may be increased to such an amount too, without any injurious consequences, as to form a very impressive means of depletion.

Diaphoretics may be administered in union or alternately with your catharties. The saline and sedative are at first to be chosen, as the Nitrat. Potass. with Infus. R. Serp. the Acet. or Citrat. Potass. the Acet. Ammon. and Nitrous Æther. The use of these means should be continued through the *remission*, and so timed as to produce their fullest effect just at the period of exacerbation—the room being kept dark, cool, silent, and well ventilated, and cool drinks and ice allowed. The *vapour bath* a good adjuvant to your diaphoretics.

If the exacerbation be often repeated, and your patient's strength seem about to yield, resort to the stimulating diaphoretics—Camphor, the Vol Alkali, Tinct. Opii Camph. with Infus. R. Serp. et Cinchonæ. His drinks may be stimulating and nutritious, as arrow root with wine, wine whey, &c.

Epispastics should now be used as well for their stimulant, as their revulsive influences.

When stimulants become necessary, such must be chosen as shall least irritate the stomach. Of these capsicum and Spts. Terebinth are ascertained to be the most generally admissible. Under such circumstances the Tinct. Cantharid. may be occasionally used with advantage. By giving rise to inflammatory irritation of the urinary organs, it acts both as revulsive and stimulant.

The *irritability of stomach* in bilious remittent, is one of the most embarrassing symptoms. If it depends on irritating contents, an emetic, or a repetition of emetics will be called for; but this is very rarely necessary. If connected with inflammatory affection of the stomach as shewn by heat there, and pain increased on pressure and motion, resort must be had at once to the *mercurial treatment*, our best hope of relief—in the meanwhile applying an epispastic without delay. If slight and merely distressing by preventing the exhibition and effect of purgatives, desist awhile, apply a sinapism, employ purgative enamata. Let the patient drink cold soda water, finally give opium either alone or with calomel in pill. In such circumstances, various expedients have succeeded, a capsicum pill, a laudanum glyster, the spiritus mindereri, lime water, &c.

Constipation is another troublesome symptom. If it presents itself while the pulse is full and hard, and the strength good—bleed freely and to relaxation. Dash cold water on the legs and abdomen, give purgative glysters, administer large quantities of fluids in this way, by DeHaen's or other proper apparatus. Do not hope to overcome it by increasing the dose of cathartics—you may thus destroy the stomach. Vary them—using the mildest and least offensive.

Hiccup in the latter stages is very harassing. I have seen it continue 3, 5 and 9 days, and yet the patient recover; combat it by musk, opium, and the volatile oils.

The *mercurial treatment*—must be resorted to, if the attack be malignant or specially violent; if the patient be feeble or cachectic, or in bad health previously to a severe onset; if the disorders of the place or season be unfavourable—in Sydenham's language, if the epidemic constitution of the air be bad; if the case be unusually protracted, or runs into the typhoid state. The dose should be proportioned in frequency and amount to the exigency of circumstances from 2 to 10 grains every 2 or 3 hours, until the symptoms of incipient ptyalism shew themselves. Calomel thus employed does not interfere with any of the other remedies indicated. The objections to this mode of treatment discussed and answered. Its occasional inefficacy acknowledged; its evils of use, as well as of abuse described. The question is, however, as to its efficiency, and the necessity of resorting to it. That it implies some suffering, and perhaps some risk, will not be denied, but these should be compared or contrasted with the probability of the fatal termination which it so often averts. Confessed to be attended with much uncertainty in the case of young children; advised therefore in such cases, unless otherwise obviously hopeless, its administration be abstained from.

Country Fever. In this city we meet often with a very insidious and dangerous modification of bilious remittent, originating in transient exposure to the intensely concentrated malaria of our low country, as by sleeping a night or more upon a plantation after the frosts of spring have ceased. Observation shews that such a case is attended with peculiar hazard, and the return to our city atmosphere is universally believed to endow it with special malignity. The progress of the case is irregular, the remissions uncertain both in degree, time of occurrence and duration. The type exceedingly complicated, obscure and confused. A like aggravation of the endemic Remittents of the far west, is said to result from similar removal to the healthy uplands, from low miasmatic spots, during the *Latent period*, and before the febrile influences of malaria have developed themselves in the system.

The prognosis—unfavorable—proportional mortality very great.

Safest to treat such cases, however mildly they may commence, as of the worst kind. My usual resort is to the mercurial treatment, eagerly employing the first opportunity to give the bark, either in infusion, or the sulph. quinine. I rarely delay its exhibition beyond the very first remission after the stage of excitement is past.

It has been mentioned, that our remittent often runs into a typhoid stage. It is sometimes from the very beginning of a typhoid character; these are called congestive cases, and have been described as "malignant." In the first stage of such attacks, the hot bath (110° to 120° Fahrenheit) should be employed, and synapisms applied extensively, the bowels moved and exci-

ted by stimulating enemata; and the stimulating diaphoretics, either combined or alternated with calomel in full doses. In some instances of this nature the most energetic and persevering use of stimulants is demanded.

During convalescence attention is necessary to prevent relapse or recurrence of fever. The bowels must be kept soluble, though active purging is not admissible. Of tonics—the sulph. quinine, the chalybeate preparations, and the elixir vitriol are preferable.

The exercises of gestation at first in a carriage or boat, afterwards on horseback, are, however, the best tonics. The diet must be carefully regulated as to quantity; its quality may be determined by reference to the patient's habits of living.

A slow or chronic irritative fever continuing to harrass the patient, evinces the existence of some visceral obstruction or inflammation of obscure character. The blue pill in small dose nightly, combined with Dover's powder or some other preparation of Opium in such quantity as to produce a gently anodyne effect will probably give relief. In the meantime the Diet should be very light, and all prudent avoidance of excess or exposure enjoined.

The mercurial sore mouth may be washed with some astringent gargle, as the sulph. zinci, acet. plumbi, or alum, the mineral acids, infus. cinchonæ. After all the means proposed however, there is much need of patience on the part of the sufferer, as it is slow of subsidence under any mode of management.

REMITTENT OF CHILDREN.

Infantile Remittent—*olim Worm Fever.* Attacks between the third and twelfth year. Begins with irregularity of appetite, furred tongue, offensive breath—the nights are restless and wakeful—the skin being then hot and dry, with much thirst and head ache. the pulse frequent and jerking;—the child starts frequently in its sleep, and grinds the teeth; the bowels are costive, or irregular, with loose acrid stools. As the disease progresses the abdominal disorder becomes more and more prominent, the belly is hard and tumid, the face and feet are puffed and œdematous—there is loss of strength—a light delirium is present, with screaming at intervals, or there are stupor and coma; convulsions supervene and death soon follows.

The disease is ranked among the remittents on account of the *distinctness* of abatement of febrile symptoms, alternating with obvious exacerbations. The *period* of remission is not regular. The exacerbation comes on sometimes about noon, but most usually at night. its general duration is from 9 to 12 hours.

Causes.—*Infantile Remittent* may arise from any derangement of the digestive system, at the age above specified—costiveness allowed to become habitual—the use of unripe or rotten fruit—unwholesome diet generally—want of cleanliness of person, or of ventilation, especially in the sleeping room. It is sometimes produced by the irritation of Worms,—Lumbrici,—present in undue number in the intestines.

Prognosis—generally favorable. Signs of danger are such symptoms as betoken special derangement of the sensorial function, great restlessness, delirium, coma, subsultus tendinum, convulsions, strabismus, dyspnœa.

Treatment.—Our principal remedy is the purgative, which must be administered freely. Calomel is necessary, combined best with castor oil or rhubarb. The neutral salts may not be trusted to alone.

The tepid bath is highly useful in general—sinapisms if there is much local determination—cold affusion, if the head is affected, upon that part. Anodyne, mucilaginous enemata, if the bowels be loose and irritable.

If Worms are ascertained to be present, combine some *anthelmintic* with the cathartic means—spigelia (the efficacy of which is not however confined to its vermifuge property) melia azedarac, turpentine and camphor. The infusion R. Serp. et Cinchon, with some alkali, should be given as soon as an intermission of fever occurs, or even in good and distinct remissions.

C

CONTINUED FEVERS.

YELLOW FEVER.

Its nature, history, and type much disputed. It is a *distinct form of Continued fever*—not to be confounded with typhus on the one hand, nor with bilious remittent on the other. It is an *endemic* of the region we inhabit. It consists specifically of *a single paroxysm*, which is never repeated, long or short.

The cause of yellow fever is peculiar. In our climate it is *not contagious*,—neither absolutely,—nor under any contingences.

For its production the following conditions are demanded:

1st. Heat. Some have asserted with precision, that it will not prevail when the temperature is below 80° Fahrenheit; but this is not positively made out.

2d. Moisture. It certainly is most apt to arise in wet summers, though to this rule also there are exceptions. When it commenced among us in 1828, the season had been unprecedentedly dry.

3d. Malaria. It is met with only in malaria situations. But malaria alone, or merely aided by heat and moisture, is not capable of generating it, or it would reign annually over our lower and middle country, where bilious remittents abound.

4th. A fourth condition is then essential to its generation; this consists in the peculiar circumstances *of a city atmosphere*,—the state depending upon a *crowding* together of *human habitations*. Yellow Fever is the disease of cities and towns, not of villages and country places. In the apparent exceptions of its prevalence in ships at sea, and in marine and other hospitals in uninhabited places, as at Onrust and Edam, we still have all the conditions above specified.

The nature of this last essential cause is unknown. Its mode of action is probably twofold—both upon the bodies subjected to its influence, in which it creates predisposition, and also may give developement to the attack; and upon the air with which it may be mixed, contaminating it, and assimilating it to its own impure poisonous state. Yellow Fever almost always commences at some foul wharf or ship, or in some ill ventilated lane or alley—whence, as a centre, it spreads in all directions.

In the hot climates in which it occurs, the natives of cities subject to its invasion, enjoy the privilege of exemption from its attack. In the West-Indies and New-Orleans, this immunity is perfect; in Charleston, nearly so. In colder climates and northern cities, the case is far otherwise; all are alike and equally liable to it. The following suggestion is offered to explain this circumstance. The influences of climatic heat and cold are opposed, or contrasted in their effect on the human constitution. The Southerner retains from summer to summer the habitudes generated by the agencies of heat, as his winters are neither intense or permanent enough

to alter these habitudes. The Northern man, on the other hand, is continually undergoing the alternate affections of two climates—his summers, though shorter, being as hot as they are in low latitudes, and his winters infinitely colder.

No attack of any other endemic form of Fever, as Bilious Remittent,—tends to destroy the predisposition of a stranger to Yellow Fever. This predisposition is, however, gradually lost by long residence and complete acclimation.

Negroes are rather less liable to it than whites,—they may, however, be attacked if born in the interior and removed to town. No African is known to have been seized with it.

The Prophylaxis consists in the careful avoidance of all ordinary exciting causes. Temperance—but not abstemiousness recommended. Low diet, V. S., Cathartics and Mercurials, so far from being serviceable, are dangerous and injurious means. The heat of the sun by day, and the damp dews of evening and night must be shunned.

History and Symptoms. Yellow Fever presents itself under two modifications which depend probably in great measure upon the state of system of the subject attacked, but partly perhaps also upon the intensity of the causes applied. The modifications are familiarly referred to in the phrases Inflammatory and Congestive, which are fairly enough characteristic of the distinctions between the two in appearance, symptoms, progress, and necessary treatment.

Of the *inflammatory* form. The paroxysm may, or may not, commence with chilliness, to which soon succeeds heat and dryness of skin, with gastric uneasiness and pains of head, back and limbs, rapidly becoming intense,—anxiety,—restlessness,—flushed, turgid face—red and watery eye, its motions painful.

Head often attacked severely; patient being maniacal, or delirious, and screaming with sharp pangs,—confusion of thought no uncommon symptom from the very first.

Stomach—irritable with frequent vomiting, which occasions pain—there is heat and burning there, with a feeling of weight and hardness—and pressure on the epigastrium cannot be borne.

Respiration usually hurried and embarrased, sometimes slow and laboured,—sighing and oppression at precordia.

Skin—pungently hot and harsh, soon becomes yellow or of an orange or bronze hue.

Pulse—not to be trusted. In the worst cases little altered; in milder attacks, full, hard, jerking and frequent.

Tongue—at first soft and swoln and indented by the teeth—edges fiery red—centre furred and brown.

Thirst—water is urgently desired as much for the coolness it imparts to the burning stomach, as for the relief it affords to thirst.

Bowels—usually torpid and moved with difficulty. I have seen a case begin with diarrhœa.

Countenance—marked, and expressive of anxiety, distress, gloom, impatience, sadness, wildness, terror.

Such is a description of the first stage—following the description given by writers, who recognize a division into three obvious stadia.

This stadium comprises the whole of the *febrile* paroxysm or excite-

ment—its duration from 4, to 60 or 70 hours; the average is probably 36 to 40.

Second stage—by many considered, but improperly, as a state of remission. "It is a stadium *without any fever*." (Lining.) It commences with a gradual abatement of the preceding symptoms. *Head* is somewhat relieved—*pains* in back and limbs disappear perhaps. *Skin* becomes cooler, perhaps moist and soft. *Pulse* nearly natural, but increases in frequency and grows weaker. *Respiration* easier. Pain and burning of *stomach* lessened—vomiting attended with less effort. *Countenance* less turgid. *Eye* less red, and assuming a yellow tinge.

The patient is less anxious and distressed, and begins to indulge hopes of recovery. This stadium lasts but a few hours, never more than from 24 to 36.

The third stage—is distinguished from the second, by no marked line. The symptoms of prostration are gradually shaded more and more deeply, the *pulse* sinks, is quick, unequal and depressed. *Skin* takes on a mahogany hue, which disappears on pressure, and returns slowly. The *Tongue* sometimes soft, swoln, moist, indented, brown on the top, with a dark streak along the central line, often clean, and of a deep fiery red, as also the whole mouth and lips—perhaps dry and cracked. *Stomach* excessively irritable, its contents ejected, without the effort to vomit, either by sudden contraction or hiccup. The black vomit comes on. The bowels yield with black, acrid, and offensive discharges, the surface is cold and clammy, there is low muttering. Hemorrhage often bursts from every outlet, and death comes to the relief of the sufferer.

In the *Congestive* form, the tokens of open, inflammatory excitement seem wanting, the system being prostrated before the excessive force of the morbid cause.

If the *head* be the centre of determination, there is lethargy, stupor, coma, convulsions.

If the *stomach*, the symptoms resemble those of poisoning with arsenic or other corrosive poison; there is no regularity of progress.

The *lungs* occasionally bear the onus of the attack, livid face, difficult breathing, suffocation.

These cases are all marked, in a peculiar degree, by the mahogany or bronze hue of the skin, occasioned, I believe, by sluggish or suspended action of the capillaries, perhaps by actual paralysis of this system of vessels. It is a most gloomy symptom.

Under these circumstances, the patient usually utters little or no complaint—there may be no vomiting—the epigastrium bears pressure—the bowels are costive—the tongue dark, red, smooth and dry—the countenance stolid and fatuous, the skin insensible to irritation,—or, if inflamed, becoming gangrenous and sphacelated.

Anomalous cases, forming pathological curiosities, occur in this terrible disease. I have seen a patient walking about to the very moment of his death, carrying with him a vessel to receive the black vomit which he

threw up frequently and copiously. Others die complaining of a single symptom, as headache and the like.

The *duration* of Yellow Fever varies much. It may terminate in a few hours. It may run on into a typhous condition, and last from 20 to 25 days. The majority of deaths occur here on the 5th and 6th days.

Convalescence tedious, and apt to be harrassed by abscesses on the surface. Relapses never occur. Second attacks are rare, and do not happen to subjects remaining in the same locality. When the residence is changed, the immunity from second attacks is much impaired, if not lost.

Prognosis. Yellow fever, the most dreadful form of fever, taking precedence even of the plague in proportional mortality. The deaths at different times of its occurrence and in different localities stated at 1 in 3, (Gibraltar 1804) 2 in 3, (Philadelphia, 1820)—70 per cent, (Xeres de la Frontena, 1820.) In our city will not average one year with another more than 1 in 8—different epidemic seasons differ much however in proportional mortality. It is greater of course in the congestive forms.

The newly arrived stranger, the much exposed, as sailors, the intemperate, are in the greatest danger. With reference to this latter circumstance national habits are of importance—the Irish, Germans, English and Scotch suffer most;—Frenchmen and Italians least. Young children when attacked are in great danger.

Unfavorable symptoms. Much pain, heat and tenderness at the epigastrium. Weak pulse. Skin relaxed and moist, unless this be attended with notable general relief and the strength hold out. *Shortness* of first stage, or febrile paroxysm. I saw a patient recover, however, in whom it had lasted but 4 hours. Suppression of urine, or rather want of the secretion, considered by Rush a fatal sign; I have met with it in three instances, two of which recovered. We must not confound it with strangury which is almost always favorable, yet I have lost a patient after its occurrence. Spots on the skin, petechiæ vibices, &c. Finally black vomit. This symptom deserves a separate consideration.

Black vomit consists of black specks or flakes swimming in a brownish fluid resembling soot and water, coffee grounds, &c. It is not, as was once supposed, composed of portions of the villous coat of the stomach, eroded and sphacelated and mingled with the fluids of that cavity, for recoveries occur after its having taken place, and I have collected it from stomachs entirely uneroded.

It is not bile in any manner vitiated or altered, for it has been found in the stomach when the pylorus was closely contracted, and has been traced into the gastric vessels. It is often in the stomach and intestines when the gall bladder and ducts are filled with ordinary bile. It differs besides in all its qualities from bile, however changed. It is not blood effused into the stomach and there acted on, for in distinct hematemesis the blood undergoes no similar change, retaining its purple hue, however long it may remain in the organ,—to suppose a peculiar fluid thrown out in the diseased stomach which shall be capable of *so* changing blood is merely offering two conjectures to explain one phenomenon. It is more simple to suppose the black fluid as I believe it—to be the result of a specific action of the gastric vessels,—a distinct secretion. It is so characterised before leaving the vessels, being traced into their very calibre. It has been maintained to con-

stitute in its secretion the termination of a specific form of inflammation, and though this may be the fact in the gastritis and enteritis of yellow fever, yet it does not apply to its occurrence in other circumstances, as in pregnancy, rupture of uterus, dropsy, &c.

I have not seen black vomit occur in yellow fever earlier than the 16th hour—the 20th and 30th. It makes its appearance for the first time most frequently during the second stadium, improperly considered as a remission, towards its termination—or at the commencement of the third stadium. I have seen *six* recoveries from it; many more have occurred in the practice of my friends.

Autopsy. *Brain* usually with its membranes engorged and inflamed,—water has been found in the ventricles, and rupture of blood vessel with extravasation.

The *Lungs and Pleura* sometimes found to have undergone some inflammation.

The *Stomach* invariably more or less inflamed on its inner surface, some times on its outer also; so with the *duodenum.* I have never seen gangrene or spacelus.

The *Liver* often healthy—so of the gall bladder.

The *Urinary Bladder*—not unfrequently inflamed and contracted.

Treatment. In the inflammatory form *V. S.* is usually considered an essential remedy. It may be indicated as in bilious remittent, but I do not regard it as generally necessary or useful. Local bloodletting is unobjectionable; and cups or leeches may be applied to the head and abdomen.

The *cold bath* has proved in my hands equally effectual with the lancet, and safer. Affusion at first or immersion, afterwards aspersion or sponging should be employed as the case progresses.

Cathartics form an indispensable part of the treatment. The articles best retained by the irritable stomach, and in part therefore, for that reason preferred by me, are calomel and the sulph. magnes. these prescribed in alternate doses will act promptly, freely, and effectually.

Emetics are injurious, unless when the patient has eaten a full meal just before the attack, and the vomiting has not been sufficient to empty the stomach.

Diaphoretics are useful. The pulv. antimon. is best when it can be borne. The saline draught, the acet. ammon. infus. R. serp, æther nitros may be employed.

But our reliance cannot be placed on any other mode of management of this terrible disease than that commonly referred to as the *mercurial treatment*—to this therefore I resort early.

Calomel should be given in doses of from ℈i to ʒi, repeated with a frequency proportioned to the violence of the case, until the disease is subdued. It is a dangerous error to cease from its exhibition when ptyalism has merely commenced.

It is objected to this mode of management that it is too *slow.* I have produced the alterative influence of the remedy as shewn by ptyalism in 15 hours—20, 24, and 30 hours. This is early enough in the majority of the cases. Armstrong with much less urgent employment of it talks of succeeding "within the first and second days." The best adjuvants are the cold bath and the saline purgative.

Those who complain of the danger and ill effect of these large doses are

chiefly such as have never used them or seen them used. They find the medicine *too powerful* in doses of 1, 2 and 5 grains; we find it, alas! deficient in power, though administered in ʒss and ʒi doses.

If it be alledged that some die in spite of its use, we have but to acknowledge that man is mortal, and will die of curable diseases occasionally, and in spite of our best skill and most energetic medicaments.

It is farther true, that if the case has progressed too far for restoration, the effects of the remedy will add not a little to the sufferings of the patient; nay, he may die with a sloughing cheek, and gums, and tongue; but this no more detracts from the value or propriety of the plan of treatment, than the sphacelation of a blistered spot from the value and propriety of epispastic applications, and is to be explained on the same principle, namely, that the vascular action has fallen so low under the circumstances, as to be incapable of supporting the local inflammation superinduced.

The permanent ill effects of mercury are rare and much exaggerated, they have never occurred in my own practice. I have seen in consultation two such deaths (in a young child and a youth of 14) as I have above alluded to.

In children I should not resort of choice to the mercurial. Its alterative influence is seldom well developed in these cases. The milder purgatives used freely in the first stage, and afterwards the combination of an Alkali with an Anodyne diaphoretic, such as a weak solution of Carb Potass with a small proportion of Tinct. Op. Camph. form my usual treatment of this class of patients. If the intensity of local determination requires it, the Lancet may be used or Leeches may be applied to relieve the Head and Stomach. While the skin continues pungently hot, the cold bath will be exceedingly beneficial, and even after the earlier excitement has subsided we shall find much advantage in occasional sponging with ardent spirit. The restlessness of the latter stages too, is often subdued and comparative tranquility procured by immersing the little sufferer in the tepid bath. But in bad cases, even among children, I would press the mercurial. I have seen two children under five years of age saved even after black vomit had occurred, by persevering until ptyalism was brought on in both.

The *acetate of lead* is much extolled by Irvine and others, I have not succeeded with it.

The *tinct. cantharides* may be employed in the latter stages both as a stimulant and to procure revulsive determination to the urinary organs.

The *spts. terebinth* is highly useful with similar views, and under similar circumstances.

Certain measures in the meanwhile may be instituted for the relief of particular symptoms or local affections. To relieve the *violent headache*, shave the head, pour cold water on it, apply pounded ice, leeches to the temples, a blister on the back of the neck. For *the irritability and pain at stomach*—apply leeches ad epigast. and sinapisms. The alkaline solutions, the alkaline draught, opiates occasionally, and in the latter stages capsicum in pill, and infus. and turpentine, may be used with advantage.

Muscular pains, sometimes intolerable—relieved by sinapisms and opiates.

In the *congestive* form of yellow fever, the *hot bath* is invaluable. Sinapisms, stimulants by the mouth and in enemeta, and mercurials. An active emetic has succeeded in rousing the insusceptible system.

The apartment must be kept in all cases well ventilated and perfectly

clean, so also the bed and body of the patient. Recoveries from yellow fever have occurred under such extraordinary circumstances, that the condition of the sick man can never be known to be absolutely desperate. He must never therefore be abandoned.

CATARRHAL FEVER.

The most frequent of epidemic fevers—most common in winter and spring, and in cold climates. I have, however, seen it epidemic here in every month of the year in different years. When generally prevalent, is called *Influenza.*

Causes. May be produced by exposure to damp and cold and alternations of temperature; but is not, in the majority of instances, dependant in any degree upon the *sensible* qualities of the atmosphere.

History and symptoms. Catarrhal Fever commences usually with chilliness, headache, sneezing, coryza, red and watery eyes, light soreness of throat and larynx, with cough and rattling of mucus in the chest—at first no expectoration; afterwards of mucus and mucopurulent matter—tongue red on the edges and covered with white fur—pulse frequent, hard—skin hot and dry—pains in the back and limbs—unaccountable depression of spirits—exacerbation at night, with restlessness and cough, and some gastric uneasiness—with tension and stricture across the chest.

It sometimes happens, that the whole force of the attack is determined to the Head assuming a peculiar form. There is extremely violent pain in the forehead, usually of one side; the eye of that side, and the skin surrounding it looking red and inflamed. The pain is depressing and insupportable, and takes on an intermittent or distinctly remittent character, the exacerbations recurring for the most part in the morning or forenoon, and exhibiting an obstinate tenacity. It is obviously seated in the frontal sinus. The voice is altered in a characteristic manner.

General prognosis favourable—fever subsides, expectoration becomes easier and thicker, skin moist, respiration free, sleep refreshing, appetite returns. In adults rarely fatal, unless by exciting more serious disease. In the predisposed, apt to produce phthisis in its several forms—especially chronic bronchitis. Asthma has followed. In pregnant women, may bring on uterine hemorrhage and abortion, whether by its specific irritation, or by the mere mechanical agitation of repeated coughing, is not decided. In old people and very young children, may suffocate by engorgement of air cavities, *olim Peripneumonia Notha.* In infants, the symptoms of croup often mingle themselves with the other circumstances denoting the invasion of Catarrhal Fever. The determination to the head is sometimes so great, as to give rise to coma and convulsions.

Treatment. Catarrhal Fever may often be arrested in its *forming stage* by the free exhibition of opium, and indeed of other stimulants—but the opportunity for the use of these is transient. In the more common inflammatory form V. S. is often advisable—if the tongue be much furred or the breathing difficult, an *emetic*—next *purgatives*—these may be combined with *diaphoretics*—the latter persisted in—and combined with anodynes and demulcents when the excitement is, in a certain degree, subdued. Dover's powder is here an invaluable medicine. If the local irritation

run high, a blister may be applied to the chest or the back of the neck, according as the thorax or head is most affected.

The peculiar catarrhal affection of the Frontal Sinus, above described, is of very difficult management. The Lancet will procure a certain degree of relief. Cups or Leeches applied to the temples, are of some service. It will be necessary to determine to the Bowels by an active Cathartic. These depletory measures being premised, I give at bedtime a full dose of Dover's Powder, employing Pediluvium, and keeping warm Cataplasms with Mustard applied to the lower extremities.

The chamber should be kept at a regulated temperature during the treatment, say 60° of Fahrenheit, but well ventilated. Bed curtains objected to. Convalescence carefully protected from exposure.

Catarrhal Fever sometimes puts on a *typhous* or low character—more frequently in Europe and in large cities—here rarely, unless among exposed negroes. In such cases, the Hot Bath, Sinapisms, Stimulants and Stimulant Diaphoretics, with Opiates, must be promptly and perseveringly employed.

In children, Catarrhal Fever takes on a modified character—there is much gastric and intestinal disorder—the tongue is much furred and becomes ulcerated, so also the lips and mouth—the stomach irritable—the breath fetid—the stools dark green, and offensive, or thin and acrid—the pulse incalculably rapid—the thirst intense—the breathing hurried and difficult, with great restlessness. In these cases the *Emetic* is necessary, and will probably require repetition. The *Warm Bath*, also, is exceedingly useful. The mild *Purgative* must be perseveringly administered, alternated at night with an Anodyne Diaphoretic. If convulsions supervene, Cold Water must be poured on the head from a height.

TYPHUS FEVER.

A favourite arrangement of Fevers among writers, from Cullen down to Good, contemplated three forms—the *Synocha*, or purely Inflammatory—*Typhus*, or purely Nervous—and *Synochus*, a compound of the characteristics of the two. According to the views formerly advocated, I regard all Fevers as of this mixed or Synochus form.

Typhus may arise from any of the causes which produce debility direct, or from abstraction of accustomed stimuli—bad innutritious scanty food—cold or fatigne long continued—deprivation of fresh pure air. These circumstances depress the energies of the sensorial system, and the symptoms of such depression are prominent. It is the Famine-fever of the Irish—prevails among the free blacks in the northern cities to an immense extent, and in camps, jails, foul ships and hospitals. It occurs among our plantations sometimes, from the filth of the negro houses; and a removal to new huts is found both remedial and prophylactic.

Typhus Fever is contagious—it is also of epidemic dissemination.

It is distinguished into two grades, characterized by difference in intensity, and differing materially in the manner in which, in their progress, they affect the parts of the body.

Typhus Mitior—vulgo, Nervous Fever—usually occurs sporadically, comes on slowly and very gradually; anorexia, with furred tongue and unpleasent taste in the mouth precedes—there is chilliness, weakness and langour, depression of spirits. Oppression at precordia—sighing. The pulse is frequent, small and weak—the skin becomes hot and dry—there is headache, or vertigo, or light delirium. The bowels are, for the most part, torpid; sometimes loose, with very offensive dark stools. About the 10th or 11th day, the muscular debility becomes very great, with tremors or subsultus tendinum, the pulse very rapid, the tongue dries, is of a deep red hue, and chapped or cracked—the teeth and lips covered with a dark, tenacious sordes—gloom, and anxiety with muttering delirium, picking the bed clothes, and catching at imaginary objects in the air, coma, and death.

Prognosis generally favourable in typhus mitior.

Typhus Gravior—vulgo Putrid Fever—scarcely ever sporadic—spreads rapidly by contagion or epidemic influence. Commences with alternations of heat and cold, succeeded by a pungently hot, harsh, dry skin. The countenance expressive of anxiety and distress, the face turgid with dark red flush, eyes heavy and red, headache severe, mind disturbed and dejected, pulse small, hard, tense, frequent, irregular—tongue coated with thick brownish yellow fur—gastric oppression great, with nausea, and retching—bowels torpid.

In a short time, 3 or 4 days, tongue becomes dark, red, clean, smooth, dry, cracked—mouth and teeth encrusted with sordes—pulse sinks, and is feeble and undulatory and very rapid. Syncope on moving—subsultus tendinum—hurried respiration with sighing and sobbing, or coma with

slow and laborious breathing, breath fetid, petechiæ and vibices, hemorrhages of black blood, death from the 5th to the 30th day.

Autopsy. In different cases different organs are found most affected. In some, there is Arachnitis—in others, effusion into the ventricles and upon the surface of the Brain—in all, there is vascular trugescence; a softening of some part of the Brain is occasionally met with. The Lungs are often found engorged, and sometimes hepatized. The Abdominal Viscera rarely escapes injury, especially in protracted attacks;—the mucus membrane of the Stomach and Intestines, shewing various conditions of disease from mere vascular injection—with or without thickening and softening, to ulceration and even partial sloughing. I once saw a perforating ulcer in the Ileum, which indeed is their more frequent seat. The patient was apparently convalescent from a severe and protracted Typhus Fever; when, after eating an orange, he was suddenly seized with violent abdominal pains, and died in a few hours. On examination, I found several pieces of the orange in the peritoneal cavity, which had evidently escaped through an ulcer of about 1-3 of an inch in diameter of ragged edges, situated near the lower end of the ileum.

Prognosis in *Typhus Gravior*—doubtful. All symptoms which betoken increased sensorial and vascular prostration are unfavourable, as stupor, and insensibility to external impressions and irritations; on the other hand reviving attention to these impressions—eruptions about the mouth, boils on every part of the body—a fuller and larger pulse are favourable.

Treatment. In the milder cases, it will suffice to empty the stomach with an *emetic*, followed by a purgative. The best is a combination of merc. dulcis and pulv. rhœi—persisted in to a moderate extent for a few days. Diaphoretics may be given in the mean time, assisted by the tepid or vapour bath. We may unite both these purposes by the exhibition of an infus. cinchon et serp. with sulph. magnes. in small quantity. If the disease is obstinate, and the strength of the patient threatens to yield, resort to calomel in proper doses as an alterative, while you employ stimulants freely internally. Wine is the best of them; should be given unmixed—white preferable, as madeira and sherry; port may be chosen if the bowels are loose. Sinapisms and vesicatories may be applied, and in such succession, that the patient must be continually under their influence.

In the management of cases of typus gravior, our task is a delicate and difficult one. Our urgent indications are to relieve morbid excitement and undue determinations to vital organs, with the least delay, and the least subtraction from the vis vitæ.

Venæsection is, in most severe cases, an indispensable measure, yet seems so obviously forbidden by the great apparent debility, that it requires courage to resort to it. The pulse is *tense*, however, and will generally rise during a moderate detraction of blood. The stage of excitement is, however, short, and the remedy cannot be repeated.

The *cold bath* will be useful if the skin is hot and dry. If cool and constricted, the *hot bath* should be used instead. An *emetic* is next serviceable; if it do not move the bowels sufficiently, it may be aided by *stimulating enemata;* or, if the strength allow it, a *cathartic*—the combination of calomel and rhubarb, above mentioned, is preferable. The *mercurial treatment* should not be omitted—it affords our best hope of safety. In the mean time, the stimulant diaphoretics should be freely employed, as cam-

phor, the vol. alkali, aided by wine whey and infus. serpentaria. The vapour bath is often very serviceable under these circumstances.

Opium is considered as of doubtful effect. I often employ, however, the camphorated tincture with much advantage, and in moderate dose without ill consequence.

Sinapisms may be applied extensively and frequently; but vesicatories, although they are often beneficial, yet embarrass us occasionally by sloughing, especially in the latter stages of protracted cases. Wine is infinitely our best and safest stimulant, and should be given unmixed—it is important that the patient should take it with pleasure and in abundance.

When wine seems to fail of its stimulating influence, and the patient still sinks, we must resort to the various modes of administering ardent spirit. Of these, milk punch seems least irritating, and deserves a preference for its nutritious quality. In cases which still seem tending to a hopeless stage of prostration, we may resort to the tinct. cantharid—phosphorus—and turpentine, which, though not the safest, are among the most active stimulants.

The mineral acids constitute agreeable drinks—quench the patient's thirst well—cleanse his mouth, and correct the fetor of his discharges.

In tedious cases, the parts prest on as the patient lies in bed, must be relieved by all the arrangements employed in cases of fracture—the points of pressure must be changed and gently rubbed often. The body and clothes and apartment of the sick, must be kept scrupulously clean, and the latter well ventilated.

PNEUMONIA TYPHOIDES.

The form of fever which I treat of under this appellation was noticed first in Massachusetts in 1816, whence it spread northward into Canada, and southwards until it reached the State of Georgia. It appeared in Philadelphia in 1813—in Charleston in 1815, and underwent in this course numerous modifications, from varying circumstances of locality and predisposition. Among common people it was known as "the cold plague," "spotted fever." I have arranged it as a new and distinct disease; some contend, however, that it is a revival of the ancient "febris petechialis"—others that it is a mere typhoid form of influenza.

Cause. It was justly and indeed of necessity in its first appearance and early progress above alluded to, ascribed to a peculiar epidemic constitution of air; the modes of excitement being precisely those which give rise to attacks of, and predisposition to typhus, as low bad diet, fatigue, long exposure to cold and damp, bad air, &c. Negroes seem to be specially predisposed to it—perhaps from their constitutional inability to endure severe cold. The number of cases which we meet with, indeed seems to be very directly proportioned to the severity of any given winter.

History and symptoms. The most common form throughout the southern section of our country is that in which the tokens of *pulmonary irritation* are prominent. It is ushered in by a chill, succeeded by pains in the head and chest, of great severity. The skin becomes hot and dry—the pulse frequent, small, irregular in force—the respiration catching, or hurried and embarrassed, with teasing cough—there is great muscular prostration, with shifting pains in the back and limbs—the tongue clean and fiery red. A degree of delirium exists often from the first, sinking soon into a low muttering condition. On the third or fourth day the tongue becomes covered with a dark crust and dries—the teeth and lips are covered with sordes—the pulse grows weak and undulatory—from a sleepless state the patient falls into heavy slumbers, or is comatose—the breathing is more and more difficult, and death follows—or about the 8th, 9th, or 10th day, his expectoration becomes freer—the anxiety less—delirium subsides—the pulse rises, becoming fuller and slower—a soft warm moisture bedews the surface, and he recovers.

The *general prognosis* in this form of pheumonia typhoides is favourable. In individual cases the unfavorable signs are extreme anxiety and dejection, restlessness, debility—insusceptibility to external impressions, dyspnœa and orthopnæa with livid countenance, petechiæ and vibices, inattention to light, the pupil being fixedly dilated or contracted; on the other hand cheerful hope, uniform warmth of surface, easy breathing with free expectoration, intelligent attention to surrounding objects, and pulse fuller and slower are favourable.

Duration usually from 6 to 12 days.

This form of pneumonia typhoides, is also frequently modificd in our southern country, by combination with circumstances of gastric and hepa-

tic disorder. The first stage is characterized more distinctly by the tokens of open inflammatory excitement. The pulse is full and frequent—the tongue furred, with nausea and retching—pain in the chest and dyspnœa. This state does not last long, prostration soon following, with the symptoms recounted above.

The *anginose cases*, or those in which the *throat* was affected, were not unfrequent in the middle Atlantic States. There was in these at first, slight soreness of the throat, with ordinary catarrhal symptoms. On a sudden respiration became much impeded, and great prostration took place. The fauces and tonsils were of a dark, mahogany hue. The proportion of mortality was very great—the patient sunk in a short time irrecoverably.

The *lethargic cases*, described by the Massachusetts physicians, as occurring chiefly among females, deserve notice: "There was universal, deadly coldness—the skin as white as polished marble and smooth—countenance perfectly placid—pulse imperceptible at the wrist—action of the heart scarcely to be felt—respiration only by gasping, and that not frequent." (Report Med. Soc. Mass.)

Sudden deaths, under anomalous and inexplicable circumstances, occasionally took place during the epidemic prevalence of the disease. Men died in the fields, being seized when at work, and sinking before they could be carried home. Others again seemed to be taken off by the most inadequate ailments, "dying," as the phrase was, "of a pain in the foot, or in the ankle, or knee, or wrist." Children seem to be exempt from its attack.

Autopsy. The *thoracic viscera* bore the marks of inflammation. Flakes of lymph were sometimes found attached to the surface of the heart. The lungs sometimes hepatized. The *brain* and its membranes showed similar determination and engorgement. Effusion of serum, of lymph, and of a seropurulent fluid, found on the surface and in the ventricles.

The *abdominal viscera* presented no regular appearances.

The blood was black. The odour of the dead body sometimes less offensive than during life.

Treatment—Should vary with the form and circumstances of the case; these being much influenced by locality, the reports of remedial management, accordingly differ much. Venæsection much trusted to usually in our southern country in the first stage. I did not see it often required.

An *emetic* is often used in the first stage with advantage, or an *emetico-cathartic.*

The *stimulating diaphoretics* were, however, the remedies most generally confided in—Dover's powder, carb. ammon, camphor, &c. Stimulants, both external and internal, should be assiduously employed.

In the anomalous cases described above, opium constituted the almost exclusive dependence of physicians, and was exhibited in very large doses, —it deserves the highest confidence and the most unlimited eulogy. The mercurial treatment is recommended by the New-England physicians. I have not found this resort necessary, however, in any case.

The convalescence is slow, and for a long time imperfect. Various tonics have been recommended, of which many practitioners have chosen the preparations of *arsenic.* I prefer, however, the cinchona—placing even before the sulph. quinine, the compound infus. cinchon. and serpentaria, with some alkali.

SYMPTOMATIC FEVER.

May be defined as *obviously connected with* local injury, derangement or irritation—and *subsequent to* or *consecutive upon* the local disorder.

May be distinguished into the Continued and Intermittent. Symptomatic Fever in both these types may be connected with the same local excitement—the former (in such case) always preceding the latter—being connected with *recent* injuries and acute inflammations; the latter taking its origin in *chronic* and *subacute* inflammations, and supervening upon uncured injuries of long standing.

Continued Symptomatic is hence styled *Inflammatory;* Intermittent Symptomatic has received the appellation of *Hectic*, the fever emphatically of irritation.

Inflammatory Symptomatic, is the continued fever with which every Surgeon is familiar, as following within a short period, wounds of soft parts, injuries of the head, fractures and compound dislocations. Here we have all the ordinary tokens which denote the presence of fever—hot, dry skin, flushed and turgid face, red suffused eye, anxious countenance, tongue red and foul, thirst, nausea and gastric oppression, headache, languor, muscular pain, occasional delirium, a pulse bounding, abrupt and frequent. It arises also in connection with internal local inflammations, as pleurisy, hepatitis, sore throat. Indeed it usually becomes of paramount importance in all these pyrectic disorders of which it forms an essential part.

It is subject to be modified by the seat of local affection, and the state of constitution of the patient. In gastritis and enteritis the fever is of low character or adynamic, with small pulse, great muscular weakness and prominent tokens of sensorial depression—in phrenitis and rheumatism the strength is less impaired, the pulse full and bounding and the tokens of general vascular excitement are prominent. In Erysipelas we may have either of those states, of high excitement, or of typhus prostration, according as the patient is of robust or feeble constitution, and is situated in a crowded, ill ventilated hospital, or in the fresh pure air of the country.

Of thet reatment of this form of Symptomatic Fever, we cannot speak in this place without impropriety—we shall discuss it as we proceed, in reference to each special case.

Hectic—Intermittent Symptomatic Fever—is on the other hand remarkable for this trait in its character, that it preserves its regularity of history, and progress, without any modification of consequence from any circumstance whatever.

An *idiopathic hectic* has been spoken of by J. Hunter, Good, and Percival, but (as I believe may be shown) altogether inaccurately, and on no good grounds.

Hectic is connected with a vast number of external and internal sources of irritation. The local disorder from which it arises, may be seated in any

viscus,* or part of the body, is usually of the inflammatory kind, and must have been of some considerable previous duration.

Nor is it modified by the peculiarity of function of the part thus affected as other fevers are, being identically the same, whether based upon bronchial irritation, lumbar abscess, phthisis tuberculosus, or cancer uteri. The formation and absorption of pus is not as was formerly thought, necessary to its production; it accompanies induration and obstruction of the mesenteric glands, and of the pancreas—and gouty and rheumatic, and scrofulous swellings of joints without suppuration.

The predisposition to Hectic is specially developed in connection with the scrofulous diathesis, and perhaps extends throughout the phlegmatic temperament.

When fully developed, Hectic presents two paroxysms in the 24 hours, one coming on two or three hours before noon, the second about 12 hours after. There is sometimes, though perhaps not generally, a formed chill, succeeded by hot, dry skin, with burning heat at the soles of the feet and palms of the hands, pulse small, hard, tense, abrupt, and very frequent; there is great paleness of face, with a small circumscribed spot of florid red on each cheek, sparkling eyes, thirst, tongue smooth and red, as also the lips, and mouth, with sometimes light apthous ulceration—the stomach retains its tone, and the appetite and digestion are good, yet there is great muscular debility, and great emaciation; the nails are adunque, the teeth and sclerotica are of pearly whiteness.

The patient is usually cheerful and full of hope. I think I have observed however, that this is only the fact while the digestive system retains its elasticity, and would regard it as diagnostic; always inferring disorder of the chylopoietic viscera, or some one of them, when the spirits are depressed.

The emaciation of the patient, even when he eats heartily, may be accounted for in two ways. Either the digestive function is directly impaired, which happens sometimes, with diarrhea, &c. or the respiratory function is imperfectly performed—animalization and assimilation of Chyle, which can be perfected only in the lungs, remain incomplete.

The stages of the symptomatic intermittent are less regularly exhibited than in the idiopathic intermittent. The day paroxysm, rarely or never shews a sweating stage. The night sweats of consumptives, &c. are I think the termination of the night paroxysm.

Hectic usually supervenes with the access of the day paroxysm; to which is sometime after added, the evening or night paroxysm—the first, then, being absent for a while: it again appears towards the conclusion of the case, and both harrass the patient. I have, however, seen Hectic develope itself with the double diurnal paroxysm from the first.

Treatment—in general terms, if the local affection whence hectic is derived be curable, our attention should be directed to its management. If it cannot be cured, but can be taken away, let it be removed surgically. If it can neither be cured nor taken away, we must aim our efforts at the reduction of the excitability and irritability of the patient, and at the diminution

* There is a single exception. I have not, either in reading or observation, met with any one instance of the supervention of Hectic upon any form of disease, affecting the brain or its membranes.

of the influence of the local irritation upon the system, *Narcotics* and *Tonics* must, with these views, be resorted to. Of the first, opium, or some of its preparations, morphine, acet. morphine, &c. and denarcotized laudanum, will be the chief—prussic acid, spiders web and cicuta, have been recommended.

Of the tonics—cinchona is the best. The sulph. quinine may be used, or the infus. cinchona et R. serpen. cum carb potass vel sodæ.

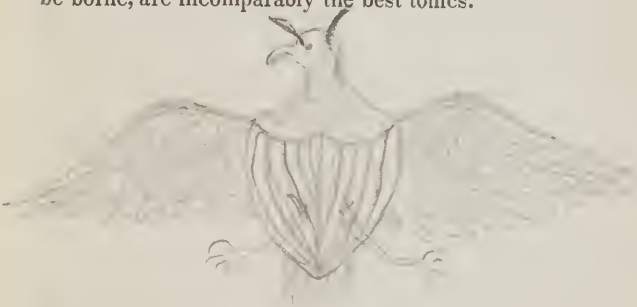
I have succeeded in preventing the day paroxysm, not unfrequently, with the combination of quinine and piperine, formerly mentioned. It does not, however, seem to exert a similar influence over the night paroxyam.

The *metallic* salts are much used, arsenic especially.

The *mineral* acids—do something in restraining the debilitating night sweats and diarrhœa. The mur. tinct. ferri. I prefer, as combining the advantages of the twe last classes of remedies.

Sulphur has been also employed, upon the analogy of its utility in idiopathic intermittents.

Fresh air—exercise—change of place by travelling; these when they can be borne, are incomparably the best tonics.



SYNCOPE.

Leipothymia. Defined by Cullen—"Motus Cordis imminutus vel aliquamdiu quiescens."—This languor or suspension of the circulatory function, is the prominent point in its description or History.

Causes. Among the *predisposing* we may rank general debility from previous disease or suffering—constitutional mobility of fibre, both accidental and hereditarily transmitted. The *exciting* or occasional may be arranged under three separate heads.

The 1st. Comprises certain structural disorders of the Heart, or of the large vessels or parts in the immediate neighbourhood, which may mechanically interrupt and disturb the regularity of the circulation—as passive Hypertrophy or Aneurism, Ossifications, Effusions, &c.

2d. Such circumstances as depress the Circulatory power, whether directly or indirectly—Hemorrhagy—Inanition from want or from protracted disease—inordinate discharges, whether natural or morbid—the removal of the abdominal distention in Dropsy, by allowing the blood to rush into the vessels from which it had been for some time previously expelled by pressure of fluid. Pregnancy presents occasional attacks of Syncope, as giving rise to undue determination of blood to the uterus leaving the Heart insufficiently excited.

3d. Under this head, I include those agents which make their primary impression upon the Sensorial system—Pain—Disagreeable impressions not absolutely painful, as the effect of heat and bad air in crowded places, of unpleasant odours; or from idiosyncrasies, odours not unpleasant—the sight of disgusting objects—most or all of the Passions and Emotions, as Joy, Grief, Terror, Horror, Pity and Impatience.

How these latter act is difficult to point out with precision; none of them are positively sedative in their operation. Cullen ingeniously attributes the result to a rapid and sudden exhaustion of the Nervous energy. Perhaps something ought to be ascribed to the very inordinate cerebral determination, which undoubtedly follows the application of the above causes—this may be so exquisite and exclusive, as to leave the Heart so far unsupplied, as to render its action languid or interrupt it. That such Cerebral determination is a common coincident in Syncope, is evident from the occurrence ot Convulsions from V. S., and in recovery from the fainting state.

Fainting comes on with an oppressive sense of weakness and languor, with paleness or lividity of the visage. The pulse is weak or ceases—the skin is cold—the eyes are turned upward and half closed. The respiration is scarcely to be perceived—or there is gasping and moaning—the patient falls insensible. After an uncertain duration, the surface being in the meanwhile clammy cold and pale or livid—the circulation is gradually restored—the breathing more distinct—sensibility and strength return. Recovery is attended with Vertigo generally, and more or less Nausea—there is sometimes Vomiting. I have twice seen violent Convulsions—

quasi Epileptic—in patients not subject to attacks of Epilepsy, either previously or afterward.

Diagnosis. From Apoplexy distinguished by the paleness and coldness of the Face and Skin—the feebleness and quickness of the Pulse, and the languor of the Respiration. From Asphyxia, generally, by the history of preceding circumstances.

Prognosis—almost universally favourable. A few fatal cases are, however, recorded.

Treatment. Modified by Cause and Condition of the Patient. If Syncope be produced by the first class of causes, above recited, a cure is not to be hoped for. As Palliatives—physical repose must be enjoined and mental tranquillity--diet unstimulating, but moderately nutritious. Perpetual Blisters or Setons in the chest and arms are used.

In cases of the second order—those namely connected with Inanition--the Patient must be placed in a recumbent position, so as to allow of a freer and more forcible passage of Blood to the Brain, now insufficiently stimulated—dash cold water in his face—apply Ammonia and other pungent Volatiles to his nostrils and eyes--warmth to the extremities, sinapisms, and other irritants—Electricity and Galvanism, if at hand. When recovering, give him some warm nutritious fluid with wine.

The management of Cases arising from the *third* series of Causes, will be more nice and delicate. If the patient have been excited by the more violent passions, his pathological condition presents some of the contingencies noticeable in Apoplexy—and it will be perhaps advisable, to take blood from the Jugular Vein or Temporal Artery; or, at any rate, to apply Cups and Leeches to the Temples and Neck. If by the less vehement emotions, as pity or disgust—external irritants will probably rouse him--and Stimulants and Anti-spasmodics complete his restoration.

To prevent recurrences of Syncope, the general health must be properly regulated by observance of a proper regimen and diet—nutritious but unstimulating Aliment being preferable—and the use of Tonics—the Metallic Salts and Mineral Acids being preferred—and, above all, exercise in the open air.

Women are much more liable than men to attacks of Syncope—Children are seldom seized with it—I have, however, seen several attacks of great violence and long duration in a child not more than seven weeks old.

ANGINA PECTORIS.

Syncope Anginosa---Sternalgia---Asthma Dolorificum. An obscure disease—probably an affection of the Heart. Its nature not well ascertained. Spasm perhaps of the cardiac fibres or of some of them—attended with great pain in the chest, and sense of suffocation and impending death, —Paroxysmal—recurrent.

Causes various. It is connected often, but not always with the Plethoric condition—sometimes with Gout—rarely appears before middle age. Autopsies have exhibited diversified structural derangement of the Heart and large vessels—thus the Coronary Arteries of the Heart have been found ossified—so have the Cardiac Valves—Hypertrophy Concentric and Eccentric—but none of these appearances are constant.

The earlier Paroxysms, brought on by violent muscular exertion, as in walking against the wind, or ascending a height;—after a time, the slightest effort occasions a return of the habitual paroxysm, as in coughing, &c., until at last it invades, without obvious cause.

History. The first attacks produced by severe exercise, cease as soon as the patient stands still—when it has become habitual, they may last an hour, or even more. The pain in the chest is exceedingly intense, shooting across the sternum, and extending down one or both arms (most commonly the left) to the elbow or wrist. There is Dyspnœa—the countenance being pale or livid—the Pulse varies much.

Prognosis unfavourable. Death not unfrequently occasioned by the violence of a Paroxysm. The tendency to recur is obstinate, and the system sinks under a repetition of attacks. I have seen Apoplexy occur at the termination of a Paroxysm.

Treatment. During the Paroxysm—if the patient be plethoric and of robust habit, and the case recent, V. S. promptly and freely—with revulsives of the most rapid and impressive power. Cold Affusion is often useful. If he be, on the other hand, feeble, or the disease chronic and habitual, the most vehement stimulants are demanded—as Ether, Laudanum, Brandy—Sinapisms to the chest.

In the intervals—We proceed with reference to the Cause and the Condition of the Patient. If there be organic affection of the Thoracic Viscera—regulated diet—rest—small bleedings—digitalis. If the patient be Arthritic, the treatment of Gout is required. If plethoric—endeavour to restore the balance of functional power and action—if debilitated, stimulate and revive him. Tonics are much employed. Exercises of gestation are well borne and highly useful—the Metallic Salts—the Mineral Acids and Sulph. Quinine are also serviceable. Much stress is laid upon the effect of revulsives and counter-irritants, as Epispastics applied to the wrists and ankles, and Setons and Issues in the arms and the thorax. The pustular inflammation of Tart. Antimon., exerted and kept up for a long time, is said to have been of great advantage.

HEMORRHAGE.

May be here defined, a flow of Blood from some part of the body, without wound or external injury; usually considered a sign of rupture of some blood vessel; this is however, not often the fact. Ulcers may corrode the coats of a Vein or an Artery, or they may otherwise lose their power of cohesion, but usually the blood is poured out from an unbroken surface by a sort of diapedesis or transudation, not well understood.

Divided into Active and Passive. Cullen has placed Hemorrhage among the Pyrexiæ—regarding Fever as an essential part of the definition of Active Hemorrhage. This is an error. I have often met with Active Hemorrhage unpreceded and unattended by Fever. Yet it is most generally soon followed by a Febrile exacerbation—a statement which is also true of what are called Passive Hemorrhagies. Good has substituted the preferable phrases Entonic and Atonic Hem: The first occurs when the system of the patient is at or above the ordinary condition of strength or tone. Atonic or Passive Hermorrhage when he is notably below this point, and in a weak and enfeebled state of general health.

Causes of Hemorrhage. Among the principal of these, *Plethora* is much dwelt on by Authors, and deserves a moment's consideration.

Plethora was looked on by the older writers as of several varieties; they recognized *P. ad molem—ad spatium—ad volumen—ad vires.*

P. ad molem contemplated the absolute superabundance of the vital fluid Hyperæmia. This I do not believe to exist in any case; though it is a favorite opinion of Andral and other justly celebrated moderns also. *P. ad spatium* expressed the quantity in reference to the contracted state of the vessels. It may he questioned whether something of this nature does not form a part of the early history of congestive and malignant fevers, as shewn by the oppressed Pulse. *P. ad volumen* regards the supposed expansion of the Blood itself. By some such effect on the actual mass which is subject to the universal law of increase of volume with elevation of temperature we account for the headaches of Spring and early Summer, Apoplexy and Insolation, as well as the frequent Hemorrhages of that season. The 4th, or *Plethora ad Vires* is a condition of the system in which the mass of fluids and the force of their circulation are disproportioned to the tone of the vessels containing them or to their power of resisting the impulse incessantly acting upon them. If in any part the integrity of the tissues of which the vessels are composed is impaired they must then give way—hence the Hemorrhages in diseased lungs, and from inflamed surfaces. Such degeneration of tissue, is among the most important predispositions to Hemorrhage.

Its occasional causes, are in general—such circumstances as either excite or increase the force of the Circulation; and such as give rise to strong local determinations—running----leaping—violent passions, all stimulants under the 1st head; under the second cold, heat, their alternations and diminution of atmospheric pressure as at great heights, external violence, impro-

per postures of the body, Ligatures, undue occupation of certain organs, as among Goldsmiths and Musicians.

Hemorrhage may occur from either Arteries or Veins; in early life, the Blood is usually inferred from its florid color to be arterial—in old age venous. Each of the individual Hemorrhages seems to be more specially incident to a given stage of life; Epistaxis in Childhood—Hemoptysis at Puberty—Menorrhagia, H. Proctica and H. Cerebri in old age; Scrofulous constitutions most liable to them all.

The premonitory symptoms of Hemorrhages, those phenomena which immediately precede its appearance, are identical with those which denote the presence of Inflammation. The part from which the Blood is to burst forth is affected with a sense of heat, throbs and suffers pain of some kind, usually sharp and pungent—there is also a feeling as if it were swollen and heavy. I do not doubt the absolute similarity of the condition of an inflamed part, with that which is to be the seat of Hemorrhage.

The hereditary transmission of Hemorrhagic tendencies is not denied; and numerous examples are on record, in which whole families are thus affected in successive generations.

Hermorrhagy is remarkably liable to recur—and in many cases, observes a regular periodicity of repetition. This is, by many, attributed to Lunar Influence, and with much plausibility. Hemorrhage was anciently regarded as a salutary effort of the Vis Medicatrix Naturæ, to save the system from worse evils; and this notion is even now prevalent concerning two of its forms—Epistaxis and Hemorrhoidal discharges of blood. The utmost that can be made out in favour of this notion is, that one disease is thus substituted for another—Hemorrhagy is no less a disease, and requires proper management to avert serious and even fatal consequences.

All Hemorrhagies may thus be vicarious or revulsive, as is often noticed in cases of obstinate Amenorrhœa. They may burst forth from any part of the surface of the body---as from the mamma---the finger, or as I have myself seen---from the skin of the cheek just below the eye, at that part which is so often discoloured in sexual diseases of females.

Particular Hemorrhagies. *Epistaxis* or bleeding from the Nose, often preceded by Headache, Vertigo, Flushing of the Face. Cold should be applied to the surface, either generally or partially---and determination to the head relieved by the Lancet if necessary, and Saline Purgatives. If it is apt to return, a Blister should be applied occasionally to the back of the Neck, or a Seton introduced there.

Bleedings from the *gums* and *fauces*, are sometimes very troublesome, and afford us an opportunity of remarking----1st. That Hemorrhage is sometimes a simple transudation from a surface; the blood has been seen issuing from the whole surface of the mouth, gums, tongue, &c., without ulcer or erosion or wound of any kind.

2dly. That the unmanageableness of Hemorrhagy, when it is of embarrassing obstinacy, or recurs frequently, is owing to a loss or impairment of the coagulating quality in the blood. I do not affirm this to be always true, but I know it to be occasionally so. Cold and astringent washes will, generally, check the discharge.

Hæmoptysis----or Spitting of Blood. Rarely occurs as a primary disease; but, for the most part, attends upon inflammatory and scrofulous affections of the respiratory organs and their tissues. It may happen,

however, in individuals whose lungs are not impaired in structure, which Cullen styles Hemoptysis Plethorica. Hemoptysis generally follows Puberty, and takes place between the 15th and 30th years of life.

Diagnosis. The Blood is thrown out from the mouth after coughing or deep hawking or expectoration, frothy, and of a bright florid hue---there is usually pain or heat and weight in some part of the thorax.

Prognosis. Not usually attended with great imminent risk. Few Bleedings from the Lungs are so profuse as to kill at once; but it may happen. In general, the danger arises from the previous condition of the patient----whose prospect is gloomy, if he have laboured under any chronic pulmonary disease, whether Bronchitis or Pneumonia proper. There is much less to fear----indeed, there is no great reason for dread, if he be free from previous disease of the Thoracic Viscera.

Treatment. If Hemoptysis be Entonic----the pulse firm and strong, and especially if febrile symptoms attend, V. S. must precede other remedies. The Lancet must however be employed with caution. Much harm has been done by its rash and indiscriminate use. A good domestic prescription is the administration of Common Salt, which may be taken largely, and is often promptly efficient in checking the flow of blood, which it does probably by stimulating the extensive surfaces of the Pharynx, Esophagus and Stomach, and thus deriving from the neighbouring Thoracic Vessels. It is also serviceable by nauseating, when taken abundantly. Other *Nauseants* are exhibited with benefit----Ipecac. especially, which I prefer----others Tart. Antimon. and the Sulphate of Zinc.

As *Sedatives*----the Nitrate of Potass and Digitalis are often resorted to. Some have ventured on cold applications; but this is attended with much doubt and risk.

The *Acetate of Lead* is prescribed here as an *Astringent*----and is undoubtedly useful in cases of a chronic character. When combined with *Opium*, to diminish irritation, and with Ipecac. so as to produce a slight nausea, it is among our very best formulæ.

Revulsion must be attempted vigorously. Sinapisms and Blisters should be applied to the Chest and Limbs----and the former may be kept under the perpetual irritation of Vesicatories, or of the Tartar Emetic Ointment.

Cough may be allayed by Demulcents and Opiates. Strict silence enjoined----the diet kept very low----and the patient, for a time, remain perfectly at rest.

In Atonic Hemoptysis, we must modify our treatment, by abstaining from V. S., and allowing a freer and more nourishing diet. Here Opium may be given pretty largely; and the Muriated Tinct. of Iron, will be found serviceable as a Tonic and Astringent. Absolute silence must be advised.

Hæmatemesis----or Vomiting of Blood. Blood thrown up from the stomach, is grumous, dark, clotted and mixed with Mucus, and other contents of that Viscus. For the most part, preceded by gastric uneasiness and oppression, with faintness and nausea, and sometimes heat or a pricking pain. These symptoms, with the absence of Cough and other respiratory disorder, readily distinguish the disease from Hæmoptœ.

Causes obscure. Intemperance predisposes to it----Brought on by external violence, by straining to vomit----by obstructions to abdominal circulation, as in Pregnancy and in disorders of the Liver and Spleen----and

by the suppression of some accustomed evacuation, as of the Catamenia in women, and the Hemorrhoids in men.

Prognosis. Not generally attended with great danger.

Treatment. If Entonic, with pain and heat of Epigastrum and hard pulse----V. S. and the Epsom Salt, should be resorted to, and the Bowels freely operated on. It is more frequently Atonic however, the pulse is feeble, and the whole frame debilitated, and requiring a very opposite management. Stimulants and Astringents are required. Small draughts of Brandy and Water may be given----Acet. Plumbi in moderate doses administered with Opium----The Tinct. Mur. Ferri is also useful----a Vesicatory should be applied over the Stomach without delay to prevent a return. The Infus. Cinchonæ, with any of the Min. Acids, may be taken, and a generous Diet allowed.

Hæmaturia, or Discharge of Blood from the Urinary Organs, though not of frequent occurrence, will sometimes fall under your care. It is generally brought on by accident or violeut muscular exertion. The most obstinate case which I have seen, was regularly produced by Coition.

This Hemorrhage generally requires, and is readily managed, by V. S., mild Cathartics, and perseverance in a recumbent position. If it runs on we may use the Acet. Plumbi and the Tinct. Mur. Ferri as Astringents.

Hemorrhagia Proctica. Discharge of Blood from the Anus, is of very rare occurrence, idiopathically, being, for the most part, an attendant upon Hemorrhoids, Dysentery, &c. I have met with three or four cases of spontaneous flow of blood from the Anus, however, when there was no Hemorrhoidal tumour, and the Bowels were otherwise in a perfectly healthy state.

Besides the remedies enumerated under the former heads, you will find much advantage here in the employment of Cold and Astringent Enemata.

HYDROPS.

Dropsy is generally assigned to consist in a preternatural collection of serous fluid in one or more of the Cavities of the body or in the Cellular Membrane. The definition is thus taken from a single symptom—but the Pathology of the Disease is exceedingly obscure.

Dropsies may be local or general. By the first we mean a collection of fluid in some part, without disorder of the general system or farther extension of the effusion of fluid. General Dropsy is a phrase which implies the existence of Hydropic Diathesis—that is the tendency to effusion of fluid every where—with the actual presence of some collection. Hydrocele is exclusively a local collection of fluid—so is Ovarian Dropsy—so, for the most part Hydrocephalus. Anasarca may be an insulated or exclusive affection. On the other hand Ascites and Hydrothorax are almost invariably connected with, dependent upon, and symptomatic of general Hydropic Diathesis.

It is usual to account for the accumulation of fluid in these cases by the supposition that the natural and healthy correspondence between exhalation and absorption is interrupted—impaired either locally or generally. Some maintain an undue excitement—some a relaxation of the Exhalent vessels—others suppose an imperfect action or condition of debility in the absorbents—but there is an almost universal accordance in the doctrine, that the fluid accumulated, is the same which is thrown out in health by the exhalents to lubricate the surfaces, as the phrase is, of the cavities.

But it is not proved that such exhalation is one of the natural functions. No fluids are found in healthy cavities. And surely no one will assert that the Cellular tissue is the seat of a natural serous effusion.

The causes of Hydrops are very various. Among them are enumerated both *Hyperœmia* and *Anœmia*—General Plethora—Debility from whatever source, whether low innutritious diet, bad air, or previous disease, great losses of blood or other evacuations, and intemperance chiefly. Many diseases give special predisposition to Dropsy. This is remarkably the fact in reference to Scarlatina—It is true also of Peritonitis—Tympanitis, Hepatic and Splenic affections—and perhaps of Small-pox and Influenza—it follows sometimes the abuse of powerful remedies, as Drastic Purgatives, Mercury, Iron, and the Vegetable Acids.

Hydrops is connected both with the Entonic and Atonic states of constitution which, therefore, it would be well to substitute for the old terms Acute and Chronic.

Prognosis in General Dropsy unfavorable, as would be readily inferred from the perusal of Bills of Mortality every where. It depends upon the previous state of the patient, and his habits, upon the form which it assumes—Entonic or Atonic—and upon the locality of the Effusion.

Dropsies which are among the ultimate manifestations of a Cachectic condition of the body, are almost of course incurable; such is the state of the Sot. On the other hand, we have much hope of removing such as oc-

cur from whatever cause in a system but lately healthy and vigorous as when Dropsy comes on from any one of the Exanthemata or other recent malady or from a transient exposure to some morbid influences. Entonic Dropsy is for the most part more easily managed than its reverse, for obvious reasons.

The locality of the Effusion seems to be of importance in reference to the Organ, with the performance of whose function it may interfere. If such function be important to be performed vigorously and without interruption, the danger is of course great, as in Hydrocephalus. Hydrothorax also presents a similar character.

The worst prognosis is, however, to be drawn from the manifestation of a general or universal Diathesis by the concurrence of several effusions in different localities. In such cases, although you may relieve the patient of the accumulation, and in various modes procure the discharge of the fluid, yet this is far from a cure of the disease, which remains obstinate and will shew itself by the renewed accumulation of the same effusions, until the patient can sustain it no longer.

Treatment. This must depend upon the condition of the patient, and the obvious or probable cause of the access of the disease. In the Entonic forms of Dropsy, the Lancet must often be used freely—Drastic Purgatives are much employed—the Saline and Vegetable Diuretics—the Antimonials and Mercury, as Diaphoretics and Alteratives, and when the undue Vascular excitement is reduced, various Tonics, Bark, Iron, Wine, &c. are resorted to.

On the other hand in Atonic cases, Tonics and Stimulants are at once prescribed, and every effort made to reanimate the enfeebled functions.

The morbid anatomy of Dropsy deserves attention. If the Hydropic affection have been general, the cavities of the body contain a watery serous fluid—which is indeed diffused through all the tissues. The very fibres of the muscles seem sodden in it, and water will continue to drip from one of them for a long time, if taken out and hung up. The Cellular structure is also abundantly injected with it. I have seen the Heart itself flabby, pale, soft as if soaked or macerated.

In Hydrocephalus the effusion may accumulate in the Ventricles, or upon the surface of the Brain externally. In the former case it will be spread out; and in the latter condensed and small. Dr. Wistar saw it distended like a bag, against the Cranium, not more than 1-8 of an inch thick—and it has been found not larger than an egg, lying on the base of the Skull.

The fluid collects in the Pericardium—in the Pleuræ, and in the substance of the Lung. By its pressure, absorption of a Lung may occur—I have met with it smaller than a man's fist.

In Ascites the Effusion is almost always connected with obvious signs of Hepatic disease, enlargement and obstruction. The Spleen may be in the same condition. The Kidneys are occasionally diseased. I have seen them full of Hydatids, or bodies closely resembling Hydatids.

ANASARCA.

Hydrops Cellularis. One of the most frequent forms of Dropsy, consists in a collection of serous fluid in the Cellular tissue. Often occurs in a local or partial form, when it is termed Œdema, as in old age—in the last stages of Phthisis, and in many other diseases, and not uncommonly in the debility of early convalscence from severe maladies.

A pale swelling of the lower extremities, easily pitting upon the application of pressure, unattended at first with any heat or soreness of skin is the first symptom of Anasarca; the intumescence becomes more general until the Cellular structure every where is filled with fluid, giving to the countenance a heavy and flabby expression, and impeding all the movements of the body. If not relieved, the distention of the skin increases so as to produce inflammation ulcer and gangrene—large quantities of serum being thus discharged.

These symptoms are attended with languor and general feebleness and inactivity—the surface is harsh and dry—the thirst considerable, the tongue often foul, and the appetite and digestion impaired.

Anasarca may be either Entonic or Atonic. In the former case the pulse will be quick and hard, and the skin above the usual temperature. In the latter, which is by far most general, we have an opposite condition of the circulation, and the skin is cool or even cold. The urine is usually small in quantity, and high colored. The Bowels are Costive.

Causes. Anasarca is connected with a great variety of circumstances, which are thought to have given rise to it. Mere *Debility* of *circulation*, as in cases alluded to above—*inflammatory affection* of the *Subcutaneous Cellular* tissue, as when it follows the Exanthemata, Scarlet fever especially---*Visceral Obstructions.* Some of the European writers describe an acute or sudden Anasarca, connected with *Pulmonary* disease—diseased state of the Kidneys.

Prognosis. If occurring alone, and in constitutions previously healthy, Anasarca is readily curable; under other circumstances the prospects of the patient are unfavourable.

Treatment. This must vary obviously with the causes of the attack, and the condition of the patient. In the Entonic or excited state of the system, the Lancet is used freely and with much advantage. Drastic Purgatives are also employed—Jalap with Super Tart. Potass, and such generally as procure thin and watery evacuations, hence called Hydragogues. Of these—Elaterium, Scammony, Colocynth, and Gamboge are recommended. The three first I never employ—the fourth rarely—they are violent and irritating, and may, I think, be dispensed with from the Materia Medica. The Epsom Salt is serviceable, and may be combined with the other formulæ prescribed.

Emetics are often used in Anasarca; and when we have, as is very frequently the fact in our Black patients, a very foul tongue, and a stomach much disordered by their bad and irregular habits, we shall find advantage in vomiting, occasionally excited. Ipecac. and Tart. Antimon. may be

used separately or combined. The Emetic is required to be frequently repeated in the case of those who eat clay or dirt—a habit met with now and then, and apt to be productive of Marasmus and Anasarca.

Diaphoretics are also employed. The Snake Roots are all of them useful. The Antimonials have also been highly eulogized. *Dover's* Powder, where no contra indication is presented, is among the best of this class of remedies; and indeed I would lay much stress upon the free use of Opium in most cases of Dropsy. Whenever attended with much general distress—irritation, restlessness and sleeplessness, this divine remedy is of infinite value.

Diuretics have been promiscuously employed in all Dropsies, and most unduly extolled. The original notion of a direct dependence of the accumulation of fluid upon a diminished urinary decretion, led to this practice, which has seemed to be supported by the alleged observations of Blackall upon the changes in the urine, connected with the presence of Dropsy, and the remarks of Bright and Christison upon the frequent coexistence of disorganization of the Kidney. The received opinions on this subject seem to me erroneous. I do not conceive any medicine to be useful directly in Dropsy as a Diuretic, that is, merely by promoting urinary discharges. And further, all remedies which are successful in their application to the various cases, produce, as in the treatment of Fever, an increase of this as of the other excretions. Thus the Lancet—Mercury, —Opium—the Antimonials—all give rise to large discharges of urine, when used with judgment. *Digitalis* is the object of almost unanimous preference among the Diuretics, specifically so called. Yet there is no satisfactory proof of its direct Diuretic influence. I use it extensively in Pulmonary and other diseases, without observing any such operation. Of the *Squill*, the same may be said.

A great number of articles are prescribed under this head. The Nitrate—Acetate and Super. Tartrate of Potass—the Vegetable Acid—the infusions of Parsley and Horse Radish, seem to be among the best. Tobacco is sometimes, but rarely exhibited.

The several Snake Roots, of which perhaps the Eryngium Yuccifolium or Button Snake Root is most esteemed, and the Colchicum Autumnale, deserve also to be prescribed.

The *Tonics* are entitled to much confidence.

Among our Negro population, Anasarca usually occurs of low and depressed character, and connected with a very cachectic state of the body. Here Cinchona is our best remedy, and is very often sufficient in itself for a perfect cure. Iron is also extensively used and much confided in. So also the Vegetable Bitters. The Cold Bath is serviceable when it can be borne. To evacuate the fluid, distending and irritating the integuments, Acupuncture is the best mode, and should be frequently repeated in all depending parts.

ASCITES.

A collection of serous fluid within the cavity of the Abdomen. Its presence is marked by a gradually-increasing equable swelling of the Belly—attended by a sense of weight and usually with perceptible fluctuation. The general health is much disordered. There is in almost every case more or less febrile excitement—thirst—diminished perspiration, with harsh dry skin—diminished urine—drowsiness and languor—the tongue is foul—the appetite and digestion disturbed—the bowels costive—the respiration impeded from the upward pressure of the Diaphragm—after a short time, Anasarca ensues, and sometimes Hydrothorax.

The *Diagnosis* is important, but not always easy. It is to be distinguished from Pregnancy in women—from Tympanitis—from Physconia or Visceral enlargements—and from Ovarian and Encysted Dropsy. We must consider, in relation to the first, the Signs, as they are called, of Pregnancy. Where these are altogether wanting, and the other tokens of Hydropic Diathesis present themselves, the inference is clear----unfortunately these two states sometimes occur together and are confused.

Tympanitis is distention without weight---it is tense and resounding.

Physconia is slower than Ascites, for the most part, in its increase, and is irregular in form, and not equable in the swelling it occasions. So also of Encysted Dropsies, which are, besides, unconnected with notable disturbance of general health.

Causes. Ascites is rarely Idiopathic----generally depends upon Visceral Disease, Hepatic Splenic, &c. It may occur suddenly, as in a case related by Darwall; two of a similar nature occurred to Chapman; and I have seen an instance following in a few hours upon Dysentery, and preceded by very transient Tympanitis.

Prognosis generally unfavourable; but should refer, in particular instances, to the cause, and to the previous state of the patient. If Entonic, and unaccompanied by Anasarca or Hydrothorax, recoveries from Ascites are not unfrequent.

Treatment. Besides the remedial management generally instituted in Anasarca, and equally well adapted here, we must lay no little stress upon the exhibition of Mercurials, on account of the ordinary dependence of Ascites on Visceral obstruction. They should be administered slowly and in small quantities----and in combination with the other remedies indicated. Ptyalism should be avoided as irritating and injurious.

Paracentesis has been a matter of much dispute. I should not hesitate to resort to the Trocar to relieve the patient from the distress produced by distention. Pressure applied carefully after the Belly is thus emptied, has been found useful. The Bandage should be applied uniformly and with assiduous attention. Tonics and Exercise are indispensably necessary to a cure.

HYDROTHORAX.

Collection of serous fluid within the cavity of the Thorax; sometimes called Hydropleura, as the serous collection is usually within the sac of the Pleura.

Some vague dispute has been held, whether Dropsy of the Chest is ever an Idiopathic affection; and a few writers have unhesitatingly considered it as the mere result of Pleuritic Inflammation. This I regard as an error. Accumulation of fluid within the Thoracic Cavities, indeed occur from inflammation of the Membrane, but are readily to be distinguished by previous symptoms. Besides this, they rarely affect more than one side, and are not attended with Anasarca or Ascites. Hydrothorax, which is connected with general Hydropic Diathesis; and which exhibits, without previous tokens of Pneumonia or Pleurisy, proofs of Effusion, I treat of as one of the forms of Idiopathic Dropsy.

It is the disease of advanced life and of broken constitutions, for the most part. There is notable paleness of the face----Dyspnæa----inability to go through any muscular exertion----Orthopnæa. The general health is impaired as in the other varieties of Dropsy—there is a short dry cough—great restlessness at night, with occasional paroxysms of threatened suffocation. Anasarca is not early present; comes on in the course of the malady; and Ascites is also often added.

The *Diagnosis* is difficult. We dwell on the Dyspnœa and Orthopnœa, so apt to come on with extreme severity in nocturnal paroxysms. There is often Palpitation of the Heart, with irregular and intermitting Pulse---- great anxiety and despondency. Exploration of the Chest displays increase of fullness on one side sometimes----with loss or diminution of capacity for making a full and deep inspiration. There is loss of respiratory murmur over most of the Chest. Fluctuation is said to be----but rarely----perceptible. On percussion a dull sound is returned. Bichat proposes, as a test, pressure on the Abdomen, which increases very much the sense of suffocation.

Causes. Those of Dropsy in general already enumerated.

Treatment. Must be guided by the principles already laid down as applicable to the other varieties of the disease. In the Entonic form, *the Lancet* should be used freely to subdue morbid excitement; but it should be recollected, that we must not make the Pulse our exclusive guide in the resort to V. S., as it often remains unaccountably hard and full to the very last moment of life.

The employment of *Purgatives* has been vehemently objected to. I would administer them in just such cases as require ℣. S., but with some caution. Nor must we expect the same obvious good effects from them as in Ascites.

The *Diaphoretics*----Antimonials, Snake Roots, &c. must be exhibited, as has been already advised in the analogous cases.

Diuretics are regarded as here specially applicable; and to Digitalis is

assigned the first place. *Squill* is useful, both in this way, aud as an expectorant. The solution of Super. Tart. Potass, or an infusion of Common Parsley, may be used as ordinary drink.

Mercurials have seemed to me almost indispensable to the cure of Hydrothorax. They should be administered in such small quantities, and at such long intervals, as to procure, if possible, their alterative influences, without the occurrence of Salivation.

Opium, if it exerts no marked effect in the removal of the disease, lends a most admirable aid in relieving or palliating the sufferings of the patient. I prescribe Anodynes freely to diminish the intolerable distress of the sick man in his nocturnal paroxysms of Dyspnœa.

External irritants to the Thorax are of some value here. A succession of Blisters will do service. The Ungt. Tart. Antimon. has been recommended.

Paracentesis Thoracis is occasionally performed----oftener by the Physicians of the Continent of Europe, than by American and English practitioners. I can see no reasonable objection to it, when the presence of fluid within the cavities of the Pleuræ is clearly made out.

HYDROCEPHALUS.

Collection of Serous fluid within the cavity of the Cranium. The effusion may occupy various localities; it is most frequently found within the Ventricles—occasionally as we are informed by Cheyne and Gölis (a German writer) deposited in the very parenchymatous tissue of the brain itself—sometimes poured out upon the surface of the Arachnoid —and in more than one instance on record, between the Dura Mater and the bony Skull.

The nature of the Disease is obscure, and has been the subject of much dispute. By many it is denied to exhibit any analogy with other Hydropic affections, and considered as a mere Phrenitis, an Inflammation of the Brain and its membranes, of which the Effusion is an ultimate and uncertain or accidental result.

It must be acknowledged that such collections in the Cranium are often preceded by symptoms which would seem to denote Inflammation, but this is not always the fact. Congenital Hydrocephalus is not rare, in which there is no proof of the precedence of inflammation; and most of the cases which develope themselves in early infancy, are free from any such indications as are supposed to be inseparably connected with inflammation. Besides this, cases are not wanting in which the symptoms which are believed to denote Hydrocephalus, are mingled or combined or alternate with those of Ascites and Anasarca. Two such have occurred to me in Black Children of 9 and 10 years of age, and a third in an adult, a Physician, a friend and former pupil. Blackall offers us some similar facts. He has witnessed—as in the cases just alluded to, the metastasis of disposition to serous effusion from other parts to the head, and also the extension to that part of general Hydropic disease.

On these grounds I regard Hydrocephalus and treat of it here as one of the forms of Dropsy.

It is customary with Authors to follow the division of Hydroceph. into Acute and Chronic.

The former it must be acknowledged, would seem by the very description to be a mere Phrenitis, but it is after all not very definitely depicted, nor distinguished accurately from affections of the head, which do not issue in the same result—an effusion, namely of serum within the Cranium.

The precursory symptoms are various, some of them referring to derangement of the Sensorial; others to disturbance of the Digestive system. The appetite is capricious or impaired—the tongue foul—the breath fetid—the belly tumid and costive, or irregular, with occasional diarrhœa—the Urine is scanty and high colored, and there is some febrile excitement. The face of the child is flushed and turgid—he is restless—sleepless—moans—puts his hand to his head---shrinks from light---or seems to suffer from pain in the ear. These tokens of acute disease, having continued for a longer or shorter time, a more characteristic series of phenomena supervene, which are assumed to be produced by pressure of effused fluid upon the brain, as

the former are attributed to inflammatory excitement of greater or less violence. The pulse becomes slow and unequal---there is stupor alternating with screaming and jactitation---the vision is now obviously impaired---there is strabismus with dilatation and immobility of the pupil---the child lies heavily with the eyes half open. It can sometimes be roused for a moment so as to take food and drink, but soon falls again into a lethargic state—the hands are tremulous and raised frequently to the head—the lower limbs are paralized or contracted and crossed—the bladder and rectum pass their contents without the consciousness of the patient—great emaciation ensues and death is often immediately preceded by violent convulsions. The duration of this stage also varies, but may be rated at from 12 to 15 or 16 days.

The Diagnosis of this form of Hydrocephalus is not possible before it has run into the second stage. The symptoms of the first, are therefore, denominated 'precursory' as depending on conditions of disease, which may or may not result in Effusion.

Chronic Hydrocephalus it has been said, is often Congenital. In such instances the causes are of course unknown; but as it occurs frequently in several children of the same parents and has happened very often when a Scrofulous taint is known or suspected to be present, many Physicians consider Scrofula as its most probable cause. When it occurs in early childhood, it may be either the result of the Acute form developed with less than fatal intensity; or it may happen at once and unpreceded by the symptoms of inflammatory excitement, described as belonging to the first stage. The parietes of the Cranium yield, and an immense distention takes place, occasioned by the accumulation of fluid—the head becomes thus misshapen and too heavy for the muscles of the patient to support, requiring to be borne upon the shoulder of the nurse or laid always on a pillow. Fluctuation is distinctly perceptible. Pressure on the head is said to produce in some a complete stupor. The senses seem to be all lost or much impaired—the powers of voluntary motion are enfeebled—but Convulsions of great violence sometimes shew themselves. When the hands are moved at will, there is picking of the nose----the teeth are ground together. As the case progresses, the respiration is affected—the legs are crossed and drawn up to the belly—the pulse becomes weak and intermitting, and at last ceases—or the patient dies worn out with tedious irritative fever and ulceration of parts, which bear the pressure of his weight. It happens, though rarely, that the Brain accommodates itself to this morbid condition, and the patient drags out a long and wearisome existence, attaining mature age.

To the few such instances recorded in the books, I add a case on the authority of my friend Dr. W. M. Lee, who saw the subject in Abbeville District, S. C. His head was 28½ inches horizontal circumference—19½ from one meatus auditorius to the other---could not walk, but trundled himself on a chair on rollers—conversed intelligently—general health good.

The *Prognosis*—of Hydrocephalus is decidedly unfavourable. Few cases are recorded of recovery after the unequivocal developement of the disease by enlargement of the Head and other signs of Effusion, had taken place. Previous to this stage, however, and during the progress of the precursory symptoms, or first stage, as it has been called, we are not without hope.

Morbid Anatomy. Water is found, as has been mentioned, in the Ventricles, in the substance of the Brain, between the Membranes in which it is enveloped, and external to the Dura Mater. An instance of this last kind occurred to myself.

The Brain is often found presenting all the marks of inflammation—engorgement of its vessels—softening of its substance----adhesions of opposite surfaces of its Membranes. Occasionally, C. Smyth says frequently, nothing of all this is to be observed. It has been found pressed out, and in thickness not more than $\frac{1}{8}$ of an inch----it has been seen condensed and smaller than an egg.

Treatment. By those who with Rush regard this Effusion as a mere termination of Phrenitis, Venesection is placed at the head of our list of remedies. The Jugular Vein is selected and opened repeatedly. Others prefer the application of Leeches.

Purgatives are employed freely by almost every Practitioner; and in their continued effect, we place, I think, our best hopes of a cure. I prefer the combination of a Resinous Drastic—Jalap or Rhubarb, with an Alkali—the Carb: Potass or Soda. To obtain the full influence of these remedies, a judicious perseverence is required.

Mercury is a fashionable remedy. It may be occasionally added with advantage to the Cathartics prescribed.

I have no confidence in the class of *Diuretics,* as applied here; but *Digitalis* is recommended by Smyth, Withering, and others.

Antimonials have been used largely by Laennec.

Cold Applications to the head are of great value, and should be persisted in. I prefer the frequent pouring of a stream of cold water upon the scalp, to any other mode.

Blistering the head is often resorted to. Caustic Issues and Setons are also employed—and in the last resort, Paracentisis Capitis has been repeatedly ventured on; and we have instances of restoration after thus relieving the little patient, related by Drs. Vose and Conquest.

SCROFULA.

The various morbid affections which are included under the above title, afford perhaps the best exemplification of the dependence of local disease upon morbid peculiarity of constitution or predisposition. This predisposition or diathesis is said to be so well marked by characteristic appearances of conformation and physiognomy, as to be recognizable before the actual occurrence of open disease. The skin is fair and soft—the hair light and silky—the eye blue and mild, and of gentle expression—the upper lip tumid and deeply fissured in the centre. A child of this constitution, often exhibits precocity of mind, united to irritability and obvious debility of body. The cheeks flush readily upon muscular exertion or mental emotion, and fatigue is promptly induced.

Scrofulous affections are not, however, exclusively confined to individuals whose aspect has been above described, but are met with, and not unfrequently, in persons of dark hair, coarse skin, and brown complexion.

It prevails more in certain climates than others. Great Britain is particularly subject to Scrofulous disease. Dry and warm regions are, comparatively, exempt from its presence.

Scrofulous inflammation, when it affects any other than the cutaneous surface, is apt to result in the secretion of a peculiar curdy matter, which is, in some situations, mingled with much serum and pus; and in others, tends to condense or concrete itself into a solid body, known as a Tubercle. These are developed in immense numbers in the Lungs in Scrofulous Phthisis, and shall receive a particular description under that head. The Children of Parents who have laboured under any of the known forms of Scrofula, are very liable to be attacked by similar disease, and thus hereditary transmission is universally recognized as the direct *cause* of Scrofula.

The predisposition is gradually built up, in the first instance, under the influence of a number of circumstances, which diminish the vigour of the system. The cold and damp air of any particular district of country, —living in close ill-ventilated apartments—being fed upon unwholesome, scanty, or innutritious diet—defective clothing—sedentary or depressing occupations—want of personal cleanliness—all these, when acting upon large masses, are known to give rise in a notable proportion among them, and a still larger proportion of their children, to various maladies, which long continued observation has led us to consider as connected by a common character, and as depending upon a similar morbid state of general constitution.

Every tissue of the body is liable to be attacked by Scrofula—the Skin, the Eyes, the ~~Hands,~~ the Joints and the Bones. Age modifies the disposition of particular structures to be affected. In early childhood, papular and squamous eruptions about the head and ears, ulceration and discoloration of the Tunica Adnata, and induration of the Mesenteric Glands, with tuberculous enlargement, are among its first tokens. Next, we have

Glands

Morbus Coxarius and White Swelling of the Knee—and at or before the time of Puberty, glandular enlargements and tumours about the Neck—and Pulmonary Tubercles. The Lungs and the Bones continue to sustain a like liability through after life. It is worthy of remark, that not only is the *predisposition* transmitted hereditarily as above stated, but children have actually been born, labouring under Scrofulous inflammation and Pulmonary Tubercles.

The *nature* of the original defect of Constitution is not known. By some it is supposed to be seated in the Digestive System. I rather ascribe it to improper action of the minute order of vessels, whose function it is to separate the materials of growth and nourishment, and the several secretions.

Scrofula also implies a contamination or deterioration of the fluids of the body. Sauvages considers the Horse liable to Scrofula. The disease which, in this animal, he entitles Scrofula Farcimen, has been propagated by transfusion of blood from a diseased to a healthy subject—and even from an horse to an ass, by Professor Coleman.

The most common developement of Scrofula, or, as it was formerly called, King's Evil, consists in the appearance and growth of small hard tumours in the course of the Lymphatics, and especially on the Neck. They increase slowly, often becoming indolent and remaining long stationary, giving no pain, and attracting little attention. After an indefinite time they enlarge, and are evidently inflamed. Matter, at last, forms in one or more; not true pus, but a thinner fluid, containing flaky curdy coagula. The tumours often coalesce, and their contents are discharged by ulceration, which leaves irregular and deforming scars.

The Treatment—is properly divided into the curative and prophylactic—the former suited to the management of cases, in which local inflammation, tumour and tubercle have been developed; the latter required where we have reason to anticipate or dread the occurrence of such local affections, either from known descent from Scrofulous parents, or from the presence of those physiognomical peculiarities which point out the predisposition.

Mercurials have been much employed in the cure of Scrofula. They require to be administered in very minute doses, and watched with great care. If Ptyalism be allowed to supervene, injury is always done to the patient; but, with the precautions suggested, Mercury will be found among our best remedies. I prefer to exhibit the Corros: Sub: in quantities indefinitely small.

Catharties used in mild formulæ, with patient perseverance, are of much benefit. I combine them with some *Alkali*, as there is, generally, notable tendency to fermentation and acidity of stomach.

Tonics are greatly confided in. The Chalybeates are selected by some Physicians—Cinchona by others.

The *Baths* are valuable auxiliaries—the cold should be chosen, if it is pleasant to the patient; otherwise, the tepid bath.

The most precise cleanliness is necessary—of the person, the clothes, and the chamber. Where the local excitement is high, and still more, when there is general sympathetic irritation, articles of stimulating quality must be avoided—nay, even abstinence may be, for a short time, necessary. Except at such periods a nourishing Diet should be allowed.

Burnt Sponge has been long in use for the cure of Scrofula. It contains some of the Alkalies already spoken of and the peculiar agent *Iodine*—which is now regarded as the chief remedy for all Scrofulous disorders. Some caution is, however necessary in its employment. I prescribe, exclusively the Aquæous solution, exceedingly dilute (Lugol's) and in this form have seen it productive of extensive benefit.

The combination of an indefinitely small proportion of Iodine with some purgative Salts minutely diffused in large quantities of water, as in many Mineral Springs, both in Europe and America, deserves to be valued as our best remedy for all the incipient developements of Scrofulous disease, and perhaps for all its stages, except in the instance of Pulmonary tubercle, where the effect is thought questionable. The *Muriates* or *Chlorides* have been generally extolled—common Salt—the Muriates of Lime—Barytes and Magnesia. It is to the mixture of some of these in Sea water, that its acknowledged utility is to be ascribed. It is one of the best purgatives when recent and pure.

The *Narcotics* deserve to be mentioned. They are all serviceable in relieving the symptomatic irritation, arising from the local derangement. I confide in Opium—others, prefer Cicuta and Hyosciamus.

Of the local treatment of Scrofulous tumour and Inflammation. In some of its developements it needs active depletion by Leeches and Cupping. Glandular swellings on the neck, &c. should at first be soothed by soft poultices—and may afterwards be discussed by the application of *Iodine* ointment—or if very hard and indolent by Blistering and Stimulating embrocations.

The *Prophylaxis*. A child born of a Scrofulous mother should be placed in the care of a healthy wet-nurse. Removal from low damp situations must be advised. The residence and especially the sleeping apartment must be well ventilated and kept perfectly neat. Precise cleanliness of person and clothing must be enjoined—bathing frequently practiced—exercise in the fresh air is essential to health and vigor—the diet must be plain and generous. Warm clothing in winter must be worn—Sedentary occupations avoided.

MARASMUS.

I place here, because it is rare comparatively to meet with any other form of Atrophy, than that which depends on Scrofulous disease. Marasmus rarely attacks adults--children are generally affected at the time of weaning, hence the phrase Atrophia Ablactorum. It seems reasonable to account for this, by the supposition that their imperfect digestive organs are unable to bear a change of food, yet it would rather appear to be independent of the change and a mere result of their arrival at this age, for it is of no benefit to keep them at the breast beyond the ordinary period. It is almost exclusively confined to children of Scrofulous parents or such as are subject to the causes formerly detailed which tend to develope Scrofulous disease.

Marasmus comes on with general languor—paleness of countenance--Anorexia or Capricious appetite--Bowels irregular but becoming loose, with stools thin, discolored, offensive and acrid. The tongue is furred, with occasional vomiting—the inside of the mouth and corners of the lips ulcerate—the gums are spongy—the belly is tumid—the flesh of the limbs soft and flabby—the emaciation progressive, and at last extreme. The duration of the case varies; but it is often exceedingly protracted.

Autopsy. Dissections shew the Intestines empty and contracted, containing dark ill-conditioned secretions—the Liver perhaps firmer and heavier than natural, and the Mesenteric Glands enlarged and indurated.

The last circumstance denotes the character of the case with sufficient clearness. The Treatment is such as has been already indicated—with certain modifications, hereafter to be pointed out under the head of Cholera Infantum.

DISEASES OF THE ORGANS ENGAGED IN THE PERFORMANCE OF DIGESTION.

DYSPEPSIA.

This term is expressive of a definite disorder of the Stomach—it is not synonymous with the word Indigestion. The Stomach, under a great variety of morbid influences, refuses to dissolve or digest food taken into it—in Fevers, it is common to see among the matters vomited in the early stages, articles of diet swallowed many hours previously. Mental emotion has the same effect, and so of other circumstances; but the transient and symptomatic derangement of the Stomach, which, in these cases, unfits it for the solution of food, differs notably from that condition of the organ of which we are to treat, and which is among the most frequent of the diseases of civilized and refined life. *Dyspepsia*, when it occurs as an independent and idiopathic affection, is the result of an imperfect secretion of the Gastric fluids, so important to the physiological and chemical changes of food taken. When this occurs as the effect of previous disease of the Stomach, as for example, Inflammation, it clearly comes under another head, Gastritis, acute or chronic—and hence the incorrectness of confounding them, as has been done by Parry, Broussais, and Wilson Philip. Inflammation is a very frequent consequence of Dyspepsia; and the last mentioned writer has treated of it as a sort of second stage.

It is idle to assume *hyperexcitation* as the only cause that can impair the power of any organ. Even when an organ has been subjected to the action of an excitant, two sets of effects follow, each of which is equally morbid in its nature and ultimate results. It is first stimulated—its capacity for action is, in the second place, impaired by exhaustion—enfeebled, relaxed. Hence, the direct agency of *a Sedative*, may produce results closely analogous to, if not identical, with the influence of *a Stimulant*. We find *Dyspepsia*, in conformity with these views, common to two classes of persons—sedentary men, on the one hand—literary persons, students, the poor who live on scanty inutritious diet—and on the other, debauchees, the intemperate and gluttons. It is not probable, that the pathological condition of the Stomach is exactly the same in these; but the symptoms exhibited, are very similar and strikingly analogous.

Dyspepsia may be then defined as a local disorder of the Stomach, manifesting itself by the imperfect, slow and painful *solution* and *digestion* of food taken. Acid eructations, Heartburn, a sense of painful fulness or distention and weight, Nausea and frequent Vomiting, Gastrodynia, Emaciation, Anorexia or defective and irregular appetite, are among the most general symptoms. From the universal sympathies which connect the diseased organ with the rest of the system, we have an infinite variety of morbid phenomena in the cases which present themselves. There is flatulence with severe colics—in many, obstinate constipation—in some, diarrhœa of various character—muscular debility and languor—great

depression of spirits, vertigo, headache, dim, depraved and (rarely) double vision—obstinate vigilance and nocturnal restlessness—vapours and hallucinations—palpitation of the heart, with slow and sometimes intermittent pulse.

One of the most ordinary results of a continuance of Dyspepsia, is the developement of a Chronic Gastro-Enterite, which is considered indeed by W. Philip, as a second stage; and the symptoms of which are often, but improperly (as even by Parry himself) enumerated under our present head.

Dyspepsia proper is purely a functional disease. Insufficient excitement of the organ as in persons ill fed—and in Students, who labour under undue determination to the Brain, occasions a defect of determination to the organ, imperfect innervation and impaired or depraved secretion. The same state of deranged innervation, results from irregular and excessive excitement, as in Sots and Gluttons, and in many others, who without any imputation of moral impropriety, commit inadvertent excesses in quantity and quality of food and drink.

Another consequence of defective innervation—want of determination to the Stomach, deficient or exhausted excitability, is the impairment of the contractile power of the organ. Hence its peristaltic motions upon which depend the due movement, mixture and solution of the food, are feeble and ineffectual. All these conditions are comprised in the meaning of the word Atony—the phrase, loss of tone of the Stomach—and constitute the form of derangement, which we call Dyspepsia.

The causes of Dyspepsia are numerous and varied. With Cullen I divide them "into—1st. Such as act directly and immediately upon the Stomach—and 2d. Such as act upon the whole body or particular parts of it; but in consequence of which, the Stomach is chiefly or almost only affected."

Under the 1st head, I mention imperfect mastication of food. The hasty eating which all foreigners regard as strikingly characteristic of Americans, helps to account for the frequency of Dyspepsia, and for the badness of the Teeth, a cause in turn, as well as an effect, of gastric derangement. Quantity of food—Excess—as well in eating, as in the use of stimulating drinks. Quality of food—as when improper and innutritious articles are used, or badly cooked diet.

Under the 2d. Modes of life and occupations may be enumerated. Indolence—a sedentary habit—undue determination to the head, as in Students—indulgence of the passions—labour in oppressive postures, and connected with confinement to close and impure air. Exposure to striking alternations of temperature.

Treatment. Most important to remove the cause—this done, the disease disappears. Diet should be nutritious—moderately stimulant—plainly but perfectly cooked—taken at distant intervals—fluids should be plain, and taken in moderate quantities.

Studies and sedentary and confined occupations must be abandoned—exercise taken freely and actively in the open air, and conjoined with amusement. Medicine should be used sparingly, and only for transient purposes. Costiveness may require occasional and mild Cathartics, or may be obviated by Enemata and frictions over the Abdomen. Acidity with Heartburn, may be relieved by Alkalies, or the Mineral Acids in small

doses. Gastrodynia is relieved by Aromatics; or, if these fail, and the pain is severe, by Anodynes. Tonics are much employed—the Metallic are best, such as Iron and Bismuth. It is satisfactorily ascertained by Beaumont and others, that the Hydrochloric or Muriatic Acid, is an essential constituent of the gastric or digestive fluid—and we thus account for its utility in Dyspepsia. The same remark applies also, but with less force, in respect to the Acetic Acid and the Chloride of Sodium or common Salt. Mercury has been used with advantage, when there was defect of secretion—but Ptyalism does harm.

The Mineral Springs—those which contain purging Salts, and Carbonic Acid, and the Chalybeate are often of service.

Prussic Acid is highly recommended by Elliotson.

GASTRITIS.

Acute Gastritis is recognized by the presence of severe pain at the Epigastrium, with a sense of heat or burning—nausea—thirst—oppression—usually repeated vomiting. Pressure on the Stomach cannot be borne—the pulse is hard, tense, frequent, small and contracted—the skin hot and dry—the tongue red or covered with a thin white coat—anxiety and dejection—sighing—restlessness—prostration of strength. As the case progresses, the tongue, cheeks and esophagus inflame and ulcerate—the pulse sinks—the eye is red and suffused—there is low muttering delirium. Black Vomit is often ejected—Respiration, as well as Deglutition, is difficult, and death soon follows.

Prognosis unfavourable. Depends somewhat upon the Cause. Is more likely to terminate fatally, when supervening on previous disease.

Causes. The Acrid Poisons, whether Mineral or Vegetable—Mechanical violence externally applied—exposure to severe alternations—violent passions—and the Metastasis of other inflammations, as in Gout, &c. Inflammation of the Stomach may produce Suppuration, it is said, and Gangrene. I have seen no instances of the kind. In death, from Gastritis, the Mucous tissue is found deeply injected, softened as by Maceration—sometimes, but rarely, eroded.

Treatment. The indications are obvious and undisputed. If it is known that any poisonous or acrid matter has been taken into the Stomach the organ must be relieved by the employment of a quick Emetic, or the Stomach-pump—and the proper Antidote, if at hand, administered. Beyond this—and from the beginning, in spontaneous Gastritis, the most prompt and energetic Depletion is called for. Venesection must be carried to the utmost extent that can be borne—and local abstraction of blood by Leeches and Cups at and near the Epigastrium, assiduously resorted to. Warm Poultices should be applied over the belly, while Ice and cold fluids are allowed liberally to quench the thirst of the patient. We may thus at once subdue the disease in some cases. If not promptly and completely successful by these means, we must soon have recourse to the mild and unirritating Cathartics, such as Calomel, Sal. Epsom and Ol Ricini. The first will often remain upon a Stomach so irritable, as to reject almost every thing else; and as soon as it operates actively, will be found to be highly beneficial. The Cathartic action must be aided by large Enemata. If the patient sink rapidly, and life seem ebbing away, I would not hesitate to exhibit stimulant formulæ and nutritious fluids. Spirit: Terebinth: has been highly and deservedly extolled. Camphor suspended in mucilage, may be given. Opiate preparations are often soothing and useful. The Infus. Cinchonæ is unobjectionable. In the meanwhile, we aid in sustaining the feeble powers of life with Wine Whey, Milk Punch, &c. &c.

During Convalescence, great care and prudence are necessary. The Diet should be fluid or semifluid, and consist chiefly of vegetable materials, with the exception of Milk, which can be taken safely by almost any one;

and of Eggs, raw or very slightly boiled. Flannel should be worn next the skin, and all exposure and excess abstained from with resolution and perseverance.

Chronic Gastritis—may supervene so gradually, and develope itself so obscurely, as to exist for a great length of time without being detected—the sufferer being supposed to labour under Dyspepia or Hypochondria. It is, as I have said, often a consequence of the former disease, and is hence frequently met with in the studious and sedentary, though prudent and temperate, as well as in the glutton and the sot.

Autopsy shews, that it may proceed even to the extent of erosion and ulceration of the mucous coat of the Stomach, without having been suspected.

Symptoms. In general, the patient complains of a sense of distension increased after a meal, especially if of stimulating food—increased also after long fasting. In its farther progress there is nausea and oppression, —extrication of gas—thirst—a tongue smooth and fiery red, and ultimately covered with apthous ulcers, as on the lips, cheeks and gums—these latter being also swollen and spongy. The pulse is small and weak; —a febrile exacerbation may be observed at night, with restlessness and jactitation and hot dry skin—there is emaciation and muscular debility, with dejection and vacillation of mind. There is often, but not always, pain at the Epigastrium, augmented by pressure. Death is preceded by Atrophy and Diarrhœa.

Treatment. If the patient's strength will admit, we resort to the Lancet—but his debility and emaciation will often render this resource improper and unavailable. Topical Depletion by Cups and Leeches, is always indicated, and should be repeated as often as it can be borne. Abstinence from solid and stimulating food, must be strictly enjoined, and the diet consist exclusively of the mildest and most unirritating articles. The Mucilages are generally advised; but, in some cases, produce great distress, by occasioning fermentation, flatulence, &c. Here, as an alternative, I allow Milk diluted—Eggs raw or slightly boiled, and thin gelatinous broths. The Bowels must be kept soluble, but by gentle means. *Calomel*, in small doses, will scarcely disturb the most irritable Stomach, and will do much service both as an evacuant and an alterative. Ptyalism, if slowly induced, and not carried too far, will prove highly beneficial. The *Alkalies* are almost always useful, whether by their Chemical properties alone, or through other influence, I will not pronounce. The combination of Carb. Sodæ with Rhubarb, will suit many patients, and seems to exert a tonic and restorative power, in addition to its laxative and antacid quality. We should not fail to advise, when it is in the power of the sick, a resort to our Chalybeate, Saline and Carbonated Mineral Springs;—but it is to be carefully recollected, that in the latter stages of these cases, where Chronic Diarrhæa has come on, and the Intestines have lost their tone, all laxative waters will do immediate and irreparable injury.

The Mur. Tinct. Ferri is among our best Tonics here. Here, also, the Acet. Plumbi is to be used, in union with Opium in proper doses. And here the Mist Cretacea with Kino, will be of service.

ENTERITIS.

Inflammation of the Intestines, often combined with the subject of the previous Lecture, forming the Gastro-Enterite so much talked of at the present day, yet not unfrequently met with separately.

Symptoms. Comes on, usually, with pain about the Navel, fixed and extending over the whole Abdomen, and attended with nausea and a sense of heat and burning, with great dejection of mind and prostration of bodily strength. The patient lies on his back, with his knees drawn up, rarely tossing the body, and shrinks from any pressure made upon the belly. This test, however is not so strictly diagnostic, as some have affirmed. I have seen two fatal cases, in which pressure was borne with indifference. The Countenance expresses great distress and anxiety. The Pulse is frequent, tense, chorded, contracted. I have seen black matter ejected both by vomiting, and by stool. Constipation is almost always present at first, but is succeeded by an irritating Diarrhœa in bad cases, with varied and highly offensive discharges. At last, the strength and pulse fail—the Abdomen becoming distended and sympanitic, and exquisitely tender to the touch—the Tongue is red and smooth and dry, or covered with ulcers—the breath is fetid, and the patient sinks with low muttering delirium.

Diagnosis. Enteritis may be confounded with Colic and Peritonitis—from the latter of which, indeed, it is difficult to distinguish it; but this is a matter of less importance, as the indications of Cure, and even the details of the Treatment, are so precisely similar in the two sets of Cases. In Peritonitis, the pulse is more voluminous—there is less prostration and nausea—the abdominal tenderness is more urgent from the first—and the alvine evacuations of less morbid character. In Colic, the pain is less fixed—there are intervals of ease more distinctly marked—the pulse is little, if at all affected—and more immediate and greater relief is experienced from alvine evacuations and discharges of wind.

Autopsy. Like Gastritis, Enteritis brings on the fatal termination in a majority of instances, by its oppressive influences upon the general constitution, and the local lesions are not very remarkable. They consist in engorgement or congestion of the vessels of the mucous intestinal membrane—the duodenum among the small, and the colon among the large, being most obviously affected—the membrane is softened usually in proportion to the discoloration. It is sometimes, however, pale and soft, as if macerated. *Ulceration* sometimes occurs—and the intestinal parietes are now and then entirely perforated. I have known two instances of extensive *gangrene* of the colon and rectum.

Causes—the same as those which produce Gastritis. Intestinal inflammation ~~here~~ frequently follows exposure to cold and moisture, and is less likely to be brought on by acrid ingesta.

Treatment. V. S. boldly resorted to, but still with due caution. Topical bloodletting by Cups and Leeches over the whole Abdomen—Ice and

More

cold fluids liberally allowed internally, while warm fomentations and poultices are assiduously used externally.

The question as to the exhibition of *Cathartics* in Enteritis, has been long and warmly contested. I have no hesitation in employing Purgatives, carefully selecting such as are least likely to irritate and annoy. Nothing seems to give more prompt relief to an inflamed mucous membrane, than abundant secretion from its own surface. I prefer to administer the Epsom Salt in alternate doses with Calomel—a combination at once mild and active. When the Bowels have been well moved, I discontinue the Salts, but persevere in the use of the *Mercurial*, until a gentle Ptyalism is induced, which is invariably beneficial. Large Enemata, in the meanwhile, will aid our purgative, and render smaller quantities more effectual.

When topical depletion can no longer be borne, and the patient has become familiar with the fomentations, Revulsion may be farther accomplished by the irritation of a Blister, which should be large enough to cover the whole Abdomen. Others may, with the same view, be applied to the thighs and legs, if necessary.

As in the latter stage of Gastritis, Stimulants may be occasionally employed with obvious advantage. The Spirit: Terebinth: is chiefly preferred. Camphor and Opium are also of unquestionable benefit.

Chronic Enteritis—sometimes occurs spontaneously, and often follows as the consequence of the Acute form. It is characterized by the same symptoms as described above, but developed more gradually, and with less intensity.

The Causes, results and treatment, are likewise similar.

Convalescence from Intestinal Inflammation, must be watched with peculiar care, as there is no disease which leaves on its subsidence a stronger tendency to recurrence. The Clothing should be warm, with Flannel over the Abdomen; the Diet carefully regulated—and all Excess strictly avoided.

MILK-SICKNESS.

This is a peculiar form of Disease, met with only in the mountainous districts of the Southern and Southwestern States.

The Cause is not clearly made out—but whether Ærial, Mineral or Vegetable, seems to be limited in its production and influence, to a few of the fertile coves that run in among the Mountain ridges. It never directly affects *the human* subject, but attacks chiefly, if not exclusively, the Cow and the Horse. The latter soon dies if not efficiently aided;—the Cow may live, and is more likely to do so, if giving Milk; but the Milk, Butter and Flesh become poisonous, exciting in those who make use of them as food, a combination of symptoms indicative of an inflammatory affection of the Stomach and Intestines—a true Gastro-Enterite. The localities subject to the presence of this undetected agent, are well known and defined, and fenced in against the intrusion of Cattle; it is said, that when cultivated, they lose their poisonous qualities.

Symptoms of Milk-Sickness. Within a short time after the patient has taken the deleterious milk, butter or flesh. he is oppressed with languor and lassitude—soon followed by nausea and vomiting, with pain, burning and oppression at the Stomach. The thirst is urgent—the skin hot and dry—the eyes are red and suffused and glassy—a peculiar odour exhales from the body. The Bowels are obstinately constipated. The Pulse, at first, little changed, becomes frequent and contracted. Fever, with low muttering delirium, supervene, and the patient sinks, with symptoms closely resembling those of Typhus Gravior. The convalescence is slow and imperfect, and apt to be followed by long debility, by Dyspepsia, and other Gastric disorders.

The Treatment does not seem to be well agreed on. The Stomach, if not thoroughly cleansed by spontaneous vomiting, should be well emptied of its injurious contents by Ipecac. or other mild Emetic, with draughts of Warm Water. If the pulse and strength admit, V. S. must be resorted to, —and, at any rate, topical depletion, by Cups and Leeches, will be required. The Bowels must be actively moved by mild Purgatives. The oily are preferred; and I found, that in neighbourhoods subject to this disease, Bears' Oil was confided in as a sort of specific remedy. Ol Ricini and Calomel will answer in combination or alternately every purpose—and if the disease be not fully subdued, the Mercurial should be urged to the extent of a light Ptyalism.

During convalescence, and indeed for an indefinite period after it. great care must be taken as to Diet, and all exposure and excess rigidly abstained from.

COLIC.

This is one of the most frequent and painful of human diseases; but is, fortunately, among the most manageable and least fatal. It has been divided and subdivided into a great number of species and varieties, in reference to the causes which give rise to the attack, and the consequences which may attend it. I shall treat of it under *three heads*:—1. Flatulent Colic—2. Bilious Colic—3. Colica Pictonum.

1. *Flatulent Colic* presents the following symptoms:—Pain in the Bowels, with a sense of twisting and griping, especially about the Navel; Nausea, Costiveness, a feeling of Distention, which, in most cases, really supervenes after a time with tympanitic resonance of the Belly, giving rise to much general distress, Dyspnœa, &c. The Pulse, unaffected at first, becomes, in a few hours, quick and frequent----pressure which, early in the attack was sought for, cannot be borne----the vomiting is more and more urgent----and if stools have not been procured, fecal or stercoraceous matter is ejected from the mouth, forming the *Iliac passion;* nay, this inversion of the intestinal peristaltic action is occasionally so complete, that Glysters are vomited up; cold sweats exude from the skin, and the patient sinks, worn out with his intolerable sufferings. Or the irritation runs on into the production of exquisite Enteritis, with gangrene or ulceration.

Post Mortem examination shews sometimes little or no alteration in the parts affected----sometimes constriction of a portion of the Intestinal tube, with distention of the part immediately above it----and sometimes distention without any such constriction. Not unfrequently there is found intussusception of one portion of the tube within another, with strangulation of the part received, and its consequent mortification.

The Causes of Colic are numerous and much diversified. The presence of crude, acrid, indigestible food----long fasting----exposure to cold and moisture----vegetable matters specially liable to fermentation. But the secretion of Gaseous and Ærial Matter, or of a fluid having such affinity for Caloric, as to take on the Gaseous form instantly on its secretion from the Intestinal surface, seems highly probable in Colic, besides the extrication of air from fermenting Vegetables.

While treating a patient for Scarlatina in 1831, I saw three violent paroxysms of Flatulent Colic brought on at intervals of 24 hours, by Enemata of thin strained Gruel----Nothing but Water, and that in very moderate quantity, having been taken in the meanwhile by the sick man, who had been managed strictly on the expectant system. In another, a Dysenteric subject, an enormous and obviously tympanitic distention took place in the course of a single night----all his former symptoms of Alvine disorder suddenly leaving him. He recovered slowly, and with Ascites.

Pathology. All circumstances seem to me, to establish the belief in the essential and invariable presence of spasmodic constriction of some portion of the Intestinal tube. The mere loss of muscular power, and the cessation of peristaltic action, with the consequent distention of a section

of the tube, as supposed by Abercrombie, does not account for the symptoms----the pain----the constipation----the obstruction to the passage of air, the intussusception and strangulation of the received portion of gut. In Hernia, where the phenomena are very similar, we know they depend upon such a stricture, and are readily relieved by its mechanical division.

To these arguments, a priori, we add the following, a posteriori: If Distention be the essence of the Disease, it is impossible to account for the undoubted utility, nay, the immediate efficacy of relaxants and anti-irritants in its removal; yet the Lancet and Opium are our principal remedies, and the Warm Bath, Tobacco, and the Antimonials, are highly recommended by Abercrombie himself.

Treatment. In the early stage, the domestic administration of Aromatics, and so styled Antispasmodics, often succeeds completely----as Mint, Ether, Camphor, &c. If the Stomach have recently received any suspicious articles of food; or, if it be loaded with a full meal, it should be emptied by an active Emetic. The Warm Bath and Opium are almost universally indicated. Purgatives, at this stage, are hurtful; but Enemata are highly serviceable. If the Pulse rise, and the Abdomen become tender on pressure, the Lancet must be used freely----and Cups or Leeches applied to the Abdomen, which should be covered with warm fomentations or poultices. Mild Laxatives are now proper—Ol Ricini with Tincture of Opium, or Calomel and Opium in moderate doses, will be of evident benefit. By such means as these, assiduously and perseveringly employed, we may almost always prevent the obstinate Constipation and violent Intestinal and Gastric disturbance so often described, and which most frequently appear to be consequences of harsh and ill-judged management. If relaxation be aimed at, it can be most efficiently accomplished by the employment of Tart. Ant. and Tobacco in Enemata. Croton Oil rubbed on the Belly, or on the Tongue, will, it is said, operate actively on the obstructed Bowels, in difficult cases. I have succeeded, in De Haen's method, by the mere mechanical distention of the lower Intestines, by large quantities of tepid water thrown up steadily from a Syringe or inverted Stomach-Pump. The use of mechanical deobstruents by the mouth----such as gold and silver Pills and crude Mercury, I mention only to reprobate.

2. *Bilious Colic*----a modification of Ileus, which owes its characteristic peculiarities to the cause producing it----to the state of the system of the subject----and to the season of the year in which it occurs. It is met with in Summer and Autumn----attack persons of "Bilious habit;" those, namely, who are subject to Hepatic affections----and is attributed to the influence of Mal'aria. The immediate irritation of the Intestines is, probably, excited by the entrance into them of a vitiated and acrid Bile---- And in all the attendant circumstances, there is an obvious analogy with an ordinary Autumnal Remittent.

The access of Bilious Colic, is often accompanied with a febrile chill, which is succeeded by flushing of the face, heat and dryness of the skin, great thirst, and a full, hard and frequent pulse. The vomiting, which is urgent, brings up Bile with morbid secretions----and there is great heat and oppression at the pit of the Stomach----with intense pain over the whole Abdomen. There is obstinate Constipation, with Tormina and Tenesmus.

Treatment. V. S. is obviously required, and must be promptly carried.

to as full an extent as the strength will allow. Opium cannot be dispensed with, and is demanded in free doses to relieve the sufferings of the patient. Cathartics may be given alternately, or in combination; but there is much difficulty in procuring their operation. I prefer to employ large quantities of Calomel and Opium together, aiding their effect by proper Enemata. In the meanwhile, the Warm Bath should be resorted to—the Abdomen cupped, and fomentations or poultices applied. When the Intestinal Constriction and Obstruction are overcome, the Case usually requires to be farther treated as a *Bilious Remittent.*

3. *Colica Pictonum—Rachialgia—Painter's Cholic.* This Gastro-Enteric affection, is always attributable to the poisonous influence of some of the Salts of Lead, a metal so widely employed in the arts of civilized life, that all are liable to be, in their turn, acted upon by its peculiar effects, which are, in many cases, developed very gradually, and in a chronic form.

Symptoms. Rachialgia commences with a dull pain at the pit of the Stomach, extending downwards and fixing with great severity at the Navel. The Abdomen becomes tender, and is drawn backward and flattened, with much pain in the loins and back. There is obstinate costiveness, with occasional inclination to go to stool. There is, usually, but not always, nausea and vomiting. The Pulse is small and tense and frequent, with headache, restlessness and dejection of mind. The patient is emaciated and feeble, and prefers a bent posture, leaning forward. Epilepsy supervenes occasionally—but much more frequently, a peculiar Paralysis of one or both of the upper extremities, with flaccidity of the wrist and hand, and wasting of the arm.

Autopsy—presents no uniform appearances. The Mucous surface of the Intestines is generally pale. Sometimes, but not often, the usual results of Inflammation of this tissue, and of the Peritoneum, are met with. The Bowels are, in some places, contracted, in others, irregularly distended.

Treatment. Opium is the principal remedy, and must be employed freely from the first—given in full doses by the mouth, *mixed in Enemata*, and applied to the surface in Poultices and fomentations. After a time, Cathartics must be given alternately, or in combination with it—the mildest being, for that reason, the best, if at all efficient. Ol Ricini—Sal Epsom—and Calomel—are usually preferred. If the pulse and strength admit, the Lancet may be used, and the Belly cupped or leeched.

In protracted Cases, Alum and powdered Nutmeg, have been highly recommended. Epispastics are also advised to be put on the Abdomen and Thighs, successively. During Convalescence, a Flannel fold and Bandage should be worn around the trunk of the body, and the Diet carefully regulated. The Paralysis of the Arm and Hand, above described, is best relieved by supporting the limb in a carved Splint, well fitted to it; while we administer Calomel and Opium in small doses, and with perseverance, until a general Ptyalism is induced.

In obstinate Cases, Strychnine is said to have been exhibited with a favourable result. The Nitrate of Silver has received similar eulogy also. Locally, the Cold Affusion may be of service; but more is to be hoped for from the assiduous employment of Electricity and Galvanism.

CHOLERA.

It is necessary to treat of this affection of the Stomach and Bowels under the separate heads of—1. Common or Sporadic Cholera—2. Epidemic or Malignant Cholera. The *first* is among the most ordinary diseases of all climates and seasons; and though alarming by its suddenness and violence, yet fatal in but a small proportion of cases: the *second*, on the other hand, though undoubtedly identical in nature and pathology, has spread the utmost dismay throughout the civilized world, by the rapidity of its career. Since, in the early part of the present century, it attracted attention in British India, it has every where exhibited a proportional mortality almost beyond example.

1. The Symptoms of *Common Cholera* are, to every one, familiar. Vomiting and purging, with pain and cramp of the Stomach and limbs, with great prostration of strength, cold and clammy skin, and extreme anxiety and dejection of mind. Death may sometimes occur from the immediate loss of strength, which follows the immediate evacuations upwards and downwards—it sometimes happens too, that when these have subsided spontaneously, or have been checked, a true Gastro-Enteritis supervenes, with fever of low irritative type.

The *Causes* of Cholera are numerous. Crude or indigestible food taken into the Stomach—raw or half-cooked or putrescent Vegetables—Fruit in excess or unripe—and some Fruits by their acid quality—Ices and Confections in undue quantity—Shellfish to those unaccustomed to use them—a Supper of mixed materials, taken just before going to bed—Exposures to alternations of temperature, and to cold with moisture. From its more frequent occurrence in Autumn, and in low hot regions, it is usual to speak of Mal'aria as among its Causes, and to regard it as occasionally the effect of the flow of a vitiated and acrid Bile into the Alimentary Canal; and facts seem to me to justify the opinion. Many of our Medicines (as Tartarized Antimony, &c.) produce it readily; and a very severe form of it supervenes upon repelled eruptions, and follows sudden and careless exposure after the subsidence of the Exanthemata—Measles especially.

Autopsy displays nothing uniform or explanatory. When the Case has been of brief duration, little trace of disease is left. If more protracted, there are obvious marks of inflammatory irritation of the Gastro-Enteric Mucous surface, with occasional extension of Inflammation, and its results, to the Peritoneum.

The *Prognosis* is, for the most part, favourable, provided the patient be of ordinary vigour, and the case be early treated with proper attention. If, on the other hand, it has been neglected or injudiciously managed—and especially, if symptoms of Gastritis or Enteritis have made their appearance, the danger has become serious.

Treatment. In a great majority of instances, *Opium* is of itself sufficient to calm the Gastric irritation—from whatever cause arising, and to subdue the disease. With Sydenham, I prefer "liquid Laudanum" to any

other formula; it should be given in full doses, and if not retained when swallowed, should be thrown up the rectum in a mucilaginous Enema, while fomentations or poultices mixed with it, are applied to the belly. Sinapisms should be laid to the wrists and ankles; and if the strength fail, Stimulants may be required, as Ammonia, Ether, Camphor and Brandy. In general, these remedies will be found sufficient; but, if the relief thus procured be imperfect, some febrile excitement, manifesting itself with menace of Gastric and Intestinal Inflammation, the treatment already advised under such circumstances, must be promptly and assiduously instituted.

2. *Malignant or Epidemic Cholera.* To the symptoms above recounted, as belonging to Cholera generally, we are to add, in the description of this terrible pestilence, certain striking phenomena, which some consider indeed as peculiar to, and characteristic of it.

The *Evacuations* are of almost uniform appearance, consisting of a well known serous fluid, with minute whitish flakes, and strongly resembling rice water or thin gruel. The *Spasms* are extremely violent, contracting, with severe cramps, almost every muscle of the body. The *Blood*, when drawn from a vein and examined with chemical reagents, is found to be deprived, in great proportion, of its serum and the salts usually contained in it. The stage of *Collapse*, into which patients often sink, is remarkable. It seems to me to be a state of true Capillary Paralysis. The surface is quite *blue* or livid—or as I saw it in one case, of dark mahogany or bronze colour—the skin is as cold as after death, with a clammy moisture, while the patient complains often of intense heat—the hands and feet are shrunken and corrugated, as if sodden a long while in water. The urinary secretion is, in bad cases, very much diminished or even totally abolished. The voice fails or sinks to a husky whisper, described as the Vox Cholerica. The *progress* is fearfully rapid—patients often dying within a few hours, and in some few of the more malignant attacks, in a still shorter period.

The form assumed is somewhat modified in the different localities invaded. In some places, we find Spasm more prominent—in others, the serous evacuations are more profuse—some are favoured with a benign alarm from premonitory symptoms, as Diarrhœas, &c.—while others are overwhelmed with awe by the fearful promptness with which the sick fall into Collapse. The consecutive febrile stage is, in France and England, a more common Sequela—in other countries, it is met with but seldom, comparatively.

Causes. A peculiar distemperature of the atmosphere, in nature and origin, absolutely unknown, is assumed to be the Generating Cause of Cholera when prevailing in this malignant and *epidemic* form. I am of those who regard it also as *contagious*, and attribute its extension, in some measure, to this form or quality. The question is hotly contested, but there are certain facts which can be explained and understood no otherwise than by reference to such a property of communicability. We do not, however, doubt or deny the atmospheric distemperature supposed, although the mode in which such contamination arises, or is effected, has not yet been the subject even of a plausible conjecture. This pestilence is, to a degree unprecedented in the history of Epidemic diseases, independent in its prevalence, upon any of the ordinary influences of place, season or cli

mate, pursuing its ravages with equal sway "under the burning line," and amidst the wintry snows of Russia.

Prognosis. The danger seems to be proportioned to the Collapse—that is, the circulatory stagnation and general loss of strength. The inordinate evacuations are sometimes well borne, and do not show the greatest degree of risk, unless attended by notable prostration. The absolute non-secretion of urine, is among the most fearful tokens—and its resumption, on the other hand, shews a change for the better. So, also, does the recovery of the natural tone of voice, when it has been much altered. The intensity of Spasm has sometimes proved fatal; but, we are not to draw favourable inferences from its subsidence, unless there is, at the same time, increased fullness of pulse and warmth of skin. Such vascular reaction affords the best hope of recovery, but requires to be carefully watched, and depletion, if necessary, to be cautiously graduated.

The *Diagnosis* can only relate to the distinction between Ordinary and Asiatic Cholera—for this purpose, the history of the preceding and attendant circumstances will usually suffice—though there are cases of the one so mild, and of the other so severe, as to resemble very closely.

Autopsy. The external appearance of the body is striking. The solids are shrunk—the surface is lived, bronzed or blue—the skin of the hands and feet corrugated—the fingers often rigidly contracted by Spasm, which, indeed, in cases of short duration, may continue to affect the various muscles several hours after death. We are warned not to pronounce hastily, in such cases, that death has taken place, as several singular instances of recovery have been recorded under the circumstances. There is, occasionally, Congestion of the vessels of the Brain, and some extravasation within the Cranium. Magendie describes a ghastly transparency of the Sclerotica, as occurring even a short time before death, or immediately after it. The Lungs and Heart are usually healthy, but gorged with dark blood. The Mucous Coat of the Stomach and Intestines is, for the most part, pale or blanched in those who die in the early stage of an attack; while the other Abdominal Viscera shews marks of Congestion. When the Case has been protracted, the congestion of the Liver and Spleen has disappeared, and the villous Intestinal tunic exhibits traces of various degrees of inflammatory irritation. The Stomach and Bowels are *found often* filled with a serous or gelatinous fluid, identical with that discharged by vomiting and purging. The quantity thus excreted, is sufficient to account for the defect of serum and the salts dissolved in it, in the blood of Choleric patients—the analysis of which, has been made with great nicety by Clanny, O'Shaughnessy, and others.

Treatment. In mild cases, seen early—and in subjects warned by the slighter precursory symptoms, I would promptly exhibit the Tinct. Opii in efficient doses, putting the patient to bed, and covering the Abdomen with warm Fomentations and Poultices, and the extremities with Sinapisms. These means failing to relieve, I would perhaps resort to the Lancet, watching anxiously the effect of the loss of blood on the pulse and strength. I would cup the Epigastrium and Belly, and apply Leeches to the back of the Neck and behind the Ears. I would depend upon the influence of Calomel, which I would combine with Opium, proportioning the dose to the urgency of the Case. If the pulse sunk, and exhaustion threatened to supervene. I would administer Capsicum and Camphor: and

if the prostration increased, employ unhesitatingly. though with reluctance, the most energetic of the diffusible Stimulants. Ice *ad libitum* should be allowed during all the stages of the attack, if agreeable and asked for.

The true Collapse—not a state of congestion or concentration, but a complete Capillary Paralysis, is an almost hopeless condition, and fairly beyond the resources of our art;—but we must not abandon our patient; and in our embarrassment, I would decidedly prefer the Stimulant, rather than the opposite class of measures. A Mustard Emetic with Salt—followed by free doses of Turpentine, Capsicum, Laudanum and Ether—with the application of heat and irritants to the surface, seem to me the most promising remedies.

In the Consecutive fever—topical and sometimes general bloodletting—the application especially of Leeches to the temples and occipital region. Mild Cathartics, with the Mercurial treatment carried to the extent of a light Ptyalism, are the measures most obviously indicated.

I scarcely need say, that I have little confidence in the exhibition of Saline Medicines, in large quantities, as recommended by Stevens—or in their introduction into the veins, as practised by Latta and others—or in the inhalation of Oxygen—or the deluging the Stomach with either Warm or Cold Water, in the indefinite draughts lauded by Shute and his antagonists on either hand—or in the Tobacco Enema of Baird—or the frictions with Ice, proposed by Jackson.

Early in the attack, bleed freely and
[illegible]. Capsicum & the Turpentine mix
[illegible] by enema

DIARRHŒA.

Inordinate frequency and fluidity of the Alvine evacuations. Very generally, though not always, there is griping pain preceding and accompanying each motion, and relieved by it for a time. Anorexia attends, with nausea sometimes, and vomiting—the tongue is furred and whitish—fever is rarely present. If the case be protracted, there is emaciation and great debility—the lips, cheeks, gums, &c. become aphthous—and the patient sinks at last, exhausted by the unceasing drain, and the Atrophy, which of course results.

Diarrhœa has been subdivided into many species in reference to the alleged sources and the morbid peculiarities presented in the stools—but the Pathology is in all the same. The Mucous Membrane lining the Digestive Canal, is irritated and excited to morbid and unnatural action—its vessels pour out an increased amount of secretion, variously changed, according to the circumstances, and a symptomatic or consequent urgency of peristaltic movement ensues.

Causes. Indigestion, whether from excess in quantity, or any other circumstance disordering the Stomach, is the usual commencement of attacks of Diarrhæa. There are indeed many substances, which, by some peculiar property, bring on transient Diarrhœa, as the whole class of Laxatives and Purgatives, several articles of food, as for example, preparations of indian corn, many fruits, ripe and unripe, molasses, confections, ices, &c. &c. The Disease results also from sudden exposures to atmospheric vicissitudes, and to cold and moisture. It arises from impressions made directly or indirectly upon the Liver, occasioning an undue flow of vitiated Bile into the Duodenum. It occurs from repelled Eruptions, and at the subsidence of the Exanthemata—from irregular Gout and Rheumatism—and, in some cases of Fever, when the evacuations are spoken of as "critical."

Prognosis. If early and judiciously prescribed for, Diarrhœa is not generally difficult of cure; but if neglected or aggravated, as is often the fact, by the employment of inappropriate medicines, it may terminate fatally, though this is rare; or it may run on into a Chronic stage, in which it assumes a singular obstinacy, enduring for months, and even years.

Treatment. It has been too much a general rule, to begin the management of Diarrhœa, by the exhibition of an Emetic or Cathartic, or perhaps both. This is seldom proper. Where foul, crude, irritating ingesta have been recently taken into the Stomach, a mild Emetic of Ipecac. may be premised; and if the stools have, from the first, contained little or no feculent matters, giving reason to suspect their retention, a gentle Cathartic of Ol Ricini, Pulv. Rhœi, or Calomel, may do service by the removal of such oppressive accumulations. For the most part, however, the evacuations have been sufficiently free; and it is best to commence at once with the administration of Opiates and Diaphoretics. The Dover's Pow-

der, or the Tinct. Opii Camphorata, will, with few exceptions, put an end to ordinary attacks. If soreness of the Abdomen exist, or febrile excitement be present, it may be proper to Cup or Leech the belly. Fomentations and Poultices, mingled with Mustard or other stimulant, are always useful. Alkaline and Astringent Medicines are next to be prescribed. Of the former, the Carb. Potass, Cret. Ppt. and Aq. Calcis, are much relied on. Kino is preferred to all the Astringents, and has received high eulogies from Pemberton and Bally. The Cretaceous Julap is a familiar and very extensively applicable combination of the mucilage of Gum Arabic, with Cret. Ppt. and Kino and an Opiate.

In Chronic Diarrhœa, the Sulphate of Alumin, Zinc and Copper, have met with zealous advocates. The latter is much employed by Elliotson. The Acet. Plumbi is deserving of confidence. The Diet should be nourishing but plain, with little fluid of any kind, and all Stimulants avoided. The trunk of the body should be enveloped in Flannel, and a journey or sea-voyage undertaken.

DYSENTERY.

Pain and disorder of the Bowels, with Fever—Tormina and Tenesmus with Alvine discharges of Mucous, or Muco Purulent or Muco Sanguinolent matter—these are the general symptoms which concur in the designation of Dysentery.

It presents itself often Sporadically, and not unfrequently as an Epidemic—is notably modified by season, climate and other circumstances, and exhibits occasionally a contagious disposition; nay, Cullen and others regard Contagion as one of its uniform characteristics.

Dysentery comes on with some Gastric uneasiness, for the most part, with griping and frequent calls to stool; the evacuations are scanty and unsatisfactory, and give no relief, being attended with much straining, and consisting at first of a mere bloody mucus, fecal matter being very seldom discharged, and in very small quantities. Febrile excitement runs high, with heat and dryness of skin, and full hard pulse—or, in other cases, partakes more of the characteristics of Typhus, when we have sudden prostration, with feeble circulation and low muttering delirium;—the belly becomes sore to the touch—the tongue is fiery red—at first covered with a thick fur, but clearing off after a time with a smooth epithelium-like surface;—there is great restlessness, with much anxiety and oppression and sighing. The Alvine discharges are now very frequent and exceedingly offensive, and much and variously changed in appearance and qualities. Small, round, hardened fæcal lumps (technically denoted Scybala) are occasionally passed by the patient, and always with notable relief—lumps of sebaceous matter are also sometimes voided. The Stomach is now and then, in these latter stages, irritable—debility and emaciation rapidly increase—the abdominal pains having reached an intolerable intensity, sometimes cease suddenly and entirely, and death soon follows.

Autopsy. Dissections uniformly reveal the results of Inflammation—often shewing Constriction of some part of the Intestinal Canal. These lesions have been most frequently found in the Colon. Ulcers are seen of various sizes eroding the Mucous Coat—and gangrene is occasionally met with of greater or less extent.

Diagnosis. Dysentery has been confounded, on the one hand, with Diarrhœa—and on the other, with mere Intestinal Inflammation, whence it has been styled by Ballingall and others a Colonitis. From Diarrhæa it is distinguished by the essential presence of Fever and of Spasmodic Constriction. Dysentery is uniformly a Pyrectic affection; and we cannot doubt of the invariable constriction of some part of the tube, as in Colic, when we reflect on the difficulty with which fœcal evacuations are procured, and the relief which always follows at once when they do happen.

That the Intestine is inflamed in Dysentery is obvious and certain; but the nature of this Inflammation is peculiar, and it is uniformly combined with circumstances and conditions which do not occur in Enteritis. In true Enteritis we have no excitement of the peristaltic movements of the

Bowels, so urgent in Dysentery; nor is there present the Tenesmus, nor griping—nor the tokens of Spasmodic Constriction met with in the latter.

The *Pathology* of Dysentery presents several complicated conditions, which separate it—(in Practice readily enough)—from all other disease. Pain, Fever and Inflammation, Ulceration and Hemorrhage, large increase and morbid alteration of the Intestinal Secretions, with urgent vehemence of the peristaltic actions, all combine in each individual case.

Causes. Dysentery may occur *sporadically* at any season of the year, like Cholera and Diarrhœa, from the irritation of the Alimentary tube, by improper crude and acrid ingesta—or by exposure to cold and moisture and sudden alternations of temperature.

It may arise as an *Endemic*, in localities subject to the influence of Mal'aria, and in the Autumn especially. This form, called by some Tropical Dysentery, is supposed to be closely connected with Hepatic derangement and effusion of vitiated Bile.

It occurs not unfrequently as an *Epidemic*, spreading rapidly and extensively by means of some unknown atmospheric contamination. It assumes probably a *Contagious* character under certain circumstances, as when it invades a Jail, Hospital, Ship or Camp—crowded and ill-ventilated places—and where the attendant Fever is of Typhus type.

Prognosis. The *general* prognosis in Vernal and Winter Dysentery and in Sporadic attacks, is favourable—not so much so in Epidemic and Autumnal Dysentery—and decidedly the reverse when the fever is of typhoid character.

In *particular* Cases, the danger may be considered as in pretty exact proportion with the urgency and frequency of the calls to stool; and a diminution of this frequency is one of the most pleasing symptoms. The nature, too, of the discharges, is of some importance. Hemorrhage is a sign of evil, as shewing the erosion of some vessel, or extreme force of vascular determination to some part of the internal surface; purulent fluid, as resulting from high inflammatory excitement, not unlikely to be productive of ulceration; so also fibrinous shreds or pieces of membrane, similar to that found in the Larynx in Croup; and ichorous or sanious and highly offensive *matters*, as giving reason to dread the supervention of Gangrene. Relaxation of the Sphincter Ani is almost certainly a fatal prognostic.

Recovery is probably at hand when the fever subsides—the tormina are less severe—the tenesmus less urgent—the alvine evacuations assume a fecal odour and appearance and the tongue becomes moister and less red.

Treatment. Bloodletting is very generally indicated—less frequently, I think, in the Epidemic and Autumnal Dysenteries;—it is of course unsuited to cases of feeble constitution and typhus combination. Topical depletion by Cupping and Leeching the Belly, is also generally useful; after which, fomentations and irritating poultices should be applied. *Emetics* have been highly lauded; but I have seen little benefit from them. *Cathartics* are not always required; but, if properly selected, will often do good service. In such attacks as occur in Winter and Spring, (which have been regarded as Catarrhal or Rheumatic) and in Epidemic Dysentery, I do not think them necessary, but would commence the treatment by administering an Opiate and Diaphoretic—as Dover's Powder or Tinct.

Opii Camph: in full dose. We may proceed to combine a few grains of Calomel, if the cases threaten to protract themselves; and under this simple management they will, in a vast majority of instances, yield promptly.

In the other forms of the disease, those, namely, which result from acrid ingesta, and such as depend on the impression of Mal'aria, we must employ the class of Mild Purgatives. In the first, it is usual to prescribe the Ol Ricini alone, or with a small amount of Ipecac.; nor can we advise a better formula. After its operation, the Belly should be well fomented, and an Opiate exhibited.

In Tropical, Autumnal, Mal'aria or Bilious Dysentery, the best of our Cathartics is the Mercurial; and the experience of all Practitioners, in hot climates, is in favour of its prompt and unshrinking administration. From one scruple upwards of Calomel is the dose—which should be repeated with a frequency proportioned to the violence and danger of the attack. I give unhesitating testimony to the remarkable success of this method of treatment. Ptyalism need not be aimed at, and may usually be avoided—the patient's life being secured without it.

It would be unwise to omit in the meanwhile the use of the Lancet, if the inflammatory symptoms run high—the Opiate, which conduces so admirably to the relief of suffering, or the Cups and Fomentations so beneficial, locally. Epispastics are, by some Physicians, very much trusted to as adjuvant means of revulsion, when the earlier stage of the case is past. They are applied both to the Abdomen and the Extremities—and sometimes effect striking results.

The employment of Enemata of various formulæ and qualities, may tend much to the comfort and advantage of the sick. Cold Water, unmixed, is among the best as diminishing pain and irritation. Mucilages, with Opium, subdue the griping and tenesmus. The Acetate of Lead has been administered with obvious good effect, both in clysters and by the mouth, where Hemorrhage—whether venous or arterial—has occurred.

The general management of the patient is of great importance. He should be kept as quiet as possible in a recumbent posture, rising as seldom and with as little exposure as may be. He should be instructed to resist, with his utmost resolution, the urgent calls to stool which annoy him, and the reiteration of which is susceptible of unlimited increase by indulgence. His chamber must be kept specially clean and pure, and his evacuations always removed on the instant. His Diet should consist of the lightest mucilaginous infusions, as Toast Water and thin Gruel. Pure Water is his best drink, though he may be allowed to acidulate it a little, with either a Vegetable or a Mineral Acid, according to his fancy. Every thing he takes should be offered in small quantities at a time, as the disposition to stool, is apt to be suddenly augmented by a large draught.

Chronic Dysentery sometimes comes on slowly as a primary affection; but is far more frequently a consequence or continuance of the Acute form. A similar management of the Case is necessary—modifying the energy of the treatment—and the doses and repetition of the remedies employed, in reference to the less urgency and violence of the symptoms, the debility so universally present, and the tenacious obstinacy which the attack has acquired from the influence of the habit of morbid action. The Diet should be carefully regulated, nourishing but unirritating, and the

Flannel Roller worn round the trunk of the body. The Acet. Plumbi, Opium, Ipecac. in small doses, Kino, and the other Astringents, Mineral and Vegetable, may be tried in succession or combination, and with perseverance—but our best hope is in a long journey or sea-voyage.

CHOLERA INFANTUM.

Under this title, Physicians have treated of every varied form of derangement of the Digestive System and function which can affect early childhood, including besides true Cholera,—Dyspepsia, Diarrhœa, Dysentery, Scrofulous Marasmus, Atrophy from whatever cause, Verminous disorders, and even Infantile Remittent and Hydrocephalus. I intend by the appellation—Cholera Infantum—when strictly applied, that modification of Bowel Complaint which is met with in Spring and early Summer, and while the process of Dentition is going on. I shall, however, follow in some degree the general custom, and take the opportunity to notice the modifications which the tender age and the habits of body of our juvenile patients may render necessary, in the treatment of the Diseases to which in them the Alimentary Tube is liable.

Cholera Infantum is most frequently met with in cities—in warm climates and low flat situations, during the sudden heats of coming Summer.

Its *Causes* are—Dentition—improper food in all its varieties, including the Milk of a pregnant mother, and of an unhealthy nurse, thick paps, &c.—general bad management—as want of proper cleanliness of skin, clothing and bed-chamber, pure air and sufficient exercise—Heat and Mal'aria.

History. It is not my purpose here to describe again the Cholera, Diarrhœa, Dysentery, Enteritis, &c. which may attack Children, as well as Adults, at any season and under any circumstances. I shall merely recount the train of symptoms which occur at the age and season above specified—in early Summer and during Dentition, as I attribute all the peculiarities which demand remark, whether in the course of the attack, the prognosis, or the treatment—to the predisposition of the season, and to the irritation of the Teeth in coming forward.

The invasion of Cholera Infantum, if it be not preceded by, and the sequela or remnant of some of the more acute forms of Intestinal disease, is gradual, though not slow. There is fretfulness and uneasy restlessness, with moaning, the hand being often applied to the mouth or face, or upon the gums, which are perhaps red and swollen; the lips and tongue also exhibit a higher than the natural colour. The stools are loose and frequent, and changed from the ordinary appearance—there is thirst, and especially at night, more or less febrile excitement. The Stomach becomes disturbed, or perhaps vomiting may be one of the earliest symptoms; and the organ is, at last, so irritable, that nothing can be retained. The stools are attended with pain and straining—are more morbid in character and acrid, so as to inflame the skin about the anus. The Abdomen is tender on pressure and becomes tumid, while the limbs emaciate, and the countenance grows haggard and ghastly—the mouth is covered with aphthous ulcers, and great languor and feeblenesss supervene. In some cases the sufferings are unremitting, and the Child cries incessantly, tossing its arms about, and drawing up its feet. In others, the patient lies in a state ap-

proaching to Coma, with its eyes half shut, and so insensible to every thing, that flies have been seen to light upon the cornea, or enter the open mouth, without being noticed. In some few instances, death is preceded by Convulsions. The duration of the attack is very uncertain. I have seen a Child carried off by Cholera—vomiting and purging—in less than twelve hours; but the chronic form I have pourtrayed, may last from 10 days to 6 or 8 weeks.

Autopsy. The appearances, after death, vary with the duration and form, and are such as have been described, successively, under former heads.

Prognosis. Cholera Infantum, so called in accordance with the definition given above, although not mortal in any large proportion, is a disease of very difficult cure—owing to the permanence of the Causes which give rise to it. Transient relief is readily within our reach; but the symptoms are exceedingly apt to recur. The chances of perfect recovery are greatest—where the smallest number of Teeth remain to be "cut;" when the constitution of the parents is good; and the Child has been previously healthy. On the other hand, we dread the result in weakly Children—those born of Scrofulous or otherwise infirm parents—those attacked early in Spring, and having a large proportion of Teeth yet to cut—such as live in low, damp and ill-ventilated situations—Children, whose mothers have become pregnant, and are forced to wean them, or change their nurses at this unfortunate age and season. The case has an unfavourable aspect when the Stomach is obstinately irritable, or the Bowels are urged with severe tenesmus, and the stools mucous or bloody or sanious; when the tongue, lips and cheeks are fiery red or ulcerated, the belly tumid, the emaciation specially great, and when Coma or Convulsions occur.

The *Treatment* varies with the several forms of disorder included under the present general head. When the Vomiting and Purging of ordinary Cholera assail an infant, they must as in an Adult be restrained by proper doses of Anodyne, while fomentations and poultices are likewise applied to the abdomen. I often prescribe a combination of the Tinct: Op: Camph: with an Alkali—the Carb: Potass for example in small doses, repeated pro re nata. When Diarrhœa exists, unattended with fever, I administer the Mist: Cretacea with or without the Tinct: Kino. The rind of the Pomegranate and the root of the high blackberry are also very useful Astringents. When Dysentery is present, I resort to the combination of Dover's Powder with Calomel and Cret: ppt: in doses, carefully adapted to the age of the child, aiding the effect with soothing, Mucilaginous, and Anodyne Enemeta, while the Belly is well fomented or poulticed.

In the Chronic case now under special discussion the obstinacy or reiterated occurrence of the attack will render all our resources necessary. In the first place the general regimen must be carefully attended to. The clothes, person, and the chamber must be kept scrupulously clean, and fresh air and free exercise allowed. If the child has been weaned while teething at the coming on of Summer, he must be put back to nurse; if the mother be pregnant or ill, a sound breast must be procured. If this cannot be done, an exclusive diet of milk and water with a little sugar must be enjoined. This is the food most readily assimilated by a child unable to masticate, and whose digestion is impaired. If his residence be in a city, an occasional ride into the country, or a temporary change of abode will

be of service. The gums, if swollen, should be scarified freely from time to time. Vomiting which will happen occasionally throughout the case, must be checked by Anodynes and Alkalies; the latter will be very frequently called for, the prevailing acidity of the contents of the Alimentary Canal being shewn both in the breath and the stools. The Warm Bath will be found a valuable auxiliary in procuring comfort and tranquility;—when inconvenient, fomentations, and poultices must be employed. Constipation will sometimes render necessary a Cathartic—the most gentle of the class should be chosen. Ol Ricini is usually and justly preferred. Calomel is also easy and mild in its operation, and there is little or no danger of Pytalism in infants, even when we persist in the exhibition of small doses of the Mercurial; this is called for, when the Stools are chalky and shew deficiency of the proper feculent and Bilious admixture. Diarrhœa should be restrained by the Astringents mentioned above—the Kino has won an extensive preference, but the Acet: Plumbi: is used, and Alum is highly extolled by Miller.

The Prophylaxis or preventive management of Children is, in reference to their liability to bowel Complaints, a matter of great importance and comprises a very extensive regulation of early Physical Education. Cleanliness, free ventilation, and exercise in the open air should be enjoined upon all. No child should be weaned in Spring or early Summer, who has not past through the perils of Teething. I am disposed to think that no child should be taken from the breast until he has teeth in sufficient number to break up and masticate his food—or, where Dentition is long delayed, has learned to do this with his gums. Much is said of the evils of keeping a child too long at nurse,—the opposite evil is at least equally dangerous.—After weaning, the Diet must be plain but abundant. No great variety should be allowed, and all such things as tempt to excess in quality should be strictly prohibited.

INTESTINAL WORMS.

Vermes—Helminthia. As all plants are liable to be preyed on by Parasitic plants, so all animals are infested by Parasites. Some of these —probably numerous species, are of themselves and in the nature of their usual connection innocuous—and become hurtful if at all so, merely by their inordinate increase. Others are, either products of disease or occasion disease uniformly by their presence. Examples of each kind may be offered among the subjects of the present discussion. The worms which ordinarily infect the Human Intestines are the Lumbricus—the Ascaris—and the Tœnia. The first of these would seem to be always or almost always an inhabitant of the Alimentary tube—exciting no disturbance, and attracting no notice whatever, unless when unduly multiplied in number, or when from some foreign cause of derangement, the body to which it has attached itself has lost something of its proper tone and vigor of health.—The Tape Worm on the other hand is always annoying and sometimes fatally irritating—While the Ascaris may be considered as in a certain degree hurtful wherever it exists, though its power to disturb greatly depends upon its multitude. The other varieties of Intestinal worms described in systematic works I shall not regard—they are very rarely met with, and deserve to be ranked rather as objects of Scientific curiosity than of pathological interest.

The *Lumbricus* is round, thickest in the middle, and tapering to both extremities, of white or slightly greenish hue, with a wrinkled or annular surface, and from 5 to 12 inches long. It enjoys distinction of sex, is of social habit, and chiefly infects children from two to ten years of age—being rarely found in any large number in infants while at the breast, or in adults.—They are so universally to be detected in the bowels, that Parr, Rush, and others considered them as regularly belonging to the healthy animal economy.

The symptoms which are supposed to result from their presence and injurious agency are in general somewhat as follows:—

The Child is languid and loses flesh, the appetite is irregular, sometimes voracious, but often deficient, the tongue is furred and the breath fetid, the bowels are usually loose with griping and straining and the stools morbid and offensive, the abdomen is hard, and tumid, and painful, the skin of the face and feet puffed, the little patient picks his nose and sleeps uneasily with starting and sometimes screaming, irregular irritative fever may supervene, there is cough perhaps with Dyspnœa, and not unfrequently Convulsions quasi Epileptic. "There is scarcely a disease or symptom of disease," says Rush, "belonging to Cullen's Class of Neuroses which is not produced by worms." I had rather refer to them as among the most potent *exciting causes* of all forms of Disease, to which the Subject may have become *predisposed* in any manner whatever.

When the above train of phenomena, or any notable number of them concur in a given case, it will be proper to manage it by a prompt resort

to Anthelminties or Vermifuges. Of these, the best are the Spigelia Marilandica—Melia Azedarach, Camphor and Spts: Terebinth:—and it is worthy of remark, that they often put an end to the appearances of disease, even when they fail to expel Worms as we had expected. Camphor is especially deserving of our confidence—it is distateful to all tribes of Insects, Worms, &c. In a dilute Aromatic infusion, it is also a good tonic, and is readily taken by Children. The others are in very extensive domestic use, and very serviceable. After a brief exhibition of any of them, it is usual to administer a Cathartic. I see no advantage in the usual selection of the Drastics—but prefer the mildly efficient articles—such as Ol Ricini, with or without Merc. Dulc.

The *Ascaris*—-Thread Worm—-Maw Worm, inhabits the Rectum chiefly, though it is said to be found in the Stomach. It is small, filiform, slender, tapering to both ends, of white colour and exceedingly vivacious. They create an intolerable pricking and itching at the Anus, but are occasionally found in the Child's bed, having crawled from his body in great numbers, without any notice of their presence being previously given. In the Stomach they excite distress and oppression—the cause of which cannot be known, unless they are expelled by vomiting, or by stool.

Aloes is the best Vermifuge here—being noxious and disgustful to the Ascaris. It is used both by the Mouth and Enema. Or a small Candle or Bougie, smeared with Mercurial Ointment, being passed into the Rectum, will dislodge them. Castor Oil with Camphor, is also useful in getting rid of them.

Tænia or Tape Worm, is distinguished into three or four subspecies—is in form flattened—separated into numerous joints, each containing an Ovary—its colour is whitish or light yellow. It is Hermaphrodite—attains a great size, some hundred feet having been expelled from a patient. I, myself, have seen 10 yards brought away at once. It is difficult of dislodgement—the head, which is toward the upper part of the Intestine, being furnished with fangs or hooks, which it fixes into the Mucous Membrane—it is, probably, also readily reproduced—inhabits chiefly the smaller Intestines, and is found almost exclusively in Adults. The other Worms die soon after leaving the body; but the Tape Worm is exceedingly tenacious of life. Its presence is productice of very great pain and uneasiness in the Belly, with Diarrhœa and Emaciation; but we have no diagnostic until the gourdseed-like joints are detected in the stools. Many remedies are offered to procure its expulsion. I have most confidence in the bold and free use of the Spts: Terebinth: either with or without Ol Ricini. Calomel—Filings of Tin and of Pewter—an amalgam of Mercury and Tin—the Male Fern—the Dolichos Pruriens—Pomegranate Rind—the Min. Solut. Fowleri—Camphor and Aloes are used—and a great many other articles—but, I fear we are bound to acknowledge, with no flattering success.

HEPATITIS.

The Liver is, apparently, the most important of the Collatitious Viscera, which aid in the digestion and assimilation of our food; and although the special uses of its secretion, the Bile, are not known with precision, yet the importance of the organ must be great, as it is the largest in the body, is one of the most uniform of the Animal Structure, and its diseases always affect the general health in a remarkable manner. It is subject to Inflammation, *Acute* and *Chronic*—and it has been much disputed, whether the difference announced in these terms be merely referable to the time occupied by the morbid action and its results, or consist in some specific distinction of nature or locality.

Acute Hepatitis has been attributed by one class of writers, to an excitement of the ramifications of the Hepatic Artery, the Nutrient Vessel of the organ; and the Chronic form to a similar condition of the minute branches of the Vena Portæ, supposed to be engaged in the business of secretion. Others regard the first as an Inflammation of the investing Serous Membrane of the Viscus; and the second as an Inflammation of the Parenchyma of the Liver.

Acute Hepatitis—commences usually with febrile rigors, followed by flushing of the face, with hard, abrupt, quick pulse. There is a sharp pungent pain in the right side under the margin of the ribs, shooting to the back and to the top of the shoulder. This pain is permanent, but is increased by a deep inspiration; it is sometimes, though not often, attended with nausea. The respiration is hurried and uneasy, and a short dry cough comes on and harrasses the patient; there is much thirst; the skin is hot and dry; the tongue is thickly furred with a yellow crust; the bowels are usually costive, and difficult to be moved.

Diagnosis—May be confounded with Pleurisy, which, also, presents severe pain in the side, with dyspnæa, cough and fever. In Pleurisy, however, the cough is one of the earliest symptoms; while it does not invade, until some time after the access of Hepatitis;—nor is there in the former the pain at the top of the shoulder, so usually attendant on Inflammation of the Liver;—the seat of pain, in the latter, is also lower down the side, and may be traced by the hand under the cartilages of the ribs.

Cause. The predisposition seems to be built up by high and long continued Heat—the influence of which upon the Liver, is attempted to be accounted for by various speculations. The ordinary exciting cause is almost always a notable alternation of temperature—exposure to damp or comparative coolness. Excesses, of all kinds, it is said, may bring on an attack.

Prognosis—generally favourable. The principal danger lies in the tendency to recurrence, succeeding attacks becoming less and less manageable. The Acute is, also, very liable to run into or produce the Chronic form of Hepatic disease. It may, however, terminate the life of the

patient, like other inflammatory affections, by exhausting the vital powers; —or it may run promptly into suppuration. This last result is known by the repeated chills or rigors which supervene—there are sweats about the face, with a pulse small and very frequent—there is, also, a sense of weight or heaviness in the right Hypochondrium. The event is, usually, unfavourable; but the abscess may empty itself—1st. By the Lungs; adhesions connecting the inflamed Viscus with the Diaphragm, and the portion of the Lung above it, and absorption or ulceration making an outlet for the pus which is coughed up: or 2d, by similar adhesions to the Stomach or Intestines, when it may be passed by stool or vomiting: or 3d, it may adhere to the parietes of the Abdomen, and point externally, as I have seen in two attacks in the same individual, a female. In all these cases, though life may be preserved, the health of the patient is irretrievably impaired—Digestion and Fecification are always afterwards imperfect.

Treatment—Is very simple, and consists almost exclusively of active Depletion. V. S. should be carried to the fullest extent—and Leeches or Cups applied to the Right Hypochondriac and Epigastric regions. The Saline Purgatives are to be freely administered; and, after their abundant operation, the skin is to be kept moist with perspiration, and the pulse low by the use of Antimonials. Should the Hepatic pain continue after this depletion, and fomentations fail to give relief, a large Blister should be put over the part.

When the patient is seen early in the attack, these measures will rarely, if ever, fail to remove it. But if his strength should sink, or suppuration supervene, we must change our plan of management, and support him by the cautious employment of Tonics and Stimulants and a generous Diet, until the matter be discharged in one of the modes above alluded to.

Chronic Hepatitis—is a form of disease of not unfrequent occurrence among us. It is sometimes, as has been said, a sequela of the Acute Variety, but more commonly developes itself independently, gradually and obscurely. With much disorder of the general health, such as has been described under the head of Dyspepsia, there is a sense of weight and fullness in the right side, with some uneasiness or pain at the top of the right shoulder—or, as the left lobe of the Liver may be affected, these may be felt on the left instead of the right side, though much more rarely. The complexion is sallow, and the tongue encrusted with a whitish or brown fur while the sides and edges are of a dark red—or the organ may have a contrasted, flabby and pale appearance, looking soft and sodden and somewhat swollen. The strength fails, and there is extreme dejection of spirits, with ennui and morbid vigilance. The Bowels are irregular, costive or loose, with ill-conditioned evacuations. The Pulse is quick and chorded, though small. A febrile exacerbation, more or less marked, takes place every evening, and a dry hacking Cough often attends.

Cause. Heat and Mal'aria predispose to this affection of the Liver, which, indeed, almost exclusively belongs to Warm Climates;—it occurs in persons who have been subjected to no other special or notable mode of excitement. It follows violent or obstinate attacks of Intermittent and Remittent Fever. It is, however, most commonly met with in the Intemperate.

Prognosis—is unfavourable. Perfect recovery of health, after a Liver Complaint of any duration, is not frequent—the patient remaining Dyspep-

tic, and liable to a recurrence of his hepatic disorder. Among its ultimate consequences too, are Icterus and Dropsy. It is more apt than the Acute form to run into Suppuration; besides which, it has a peculiar termination in a sort of permanent enlargement with induration, technically spoken of as Schirrhus. This is readily discóverable on examination by the hand, the fingers being bent and turned upwards, while the patient is leaning slightly forward to render the abdominal parietes loose.

Treatment. If the strength admit, Venæsection should be employed, but with some caution. Topical Bloodletting is always advisable and may be repeated pro re nata. The Bowels should be moved from time to time —if constipated, by mild but efficient Cathartics. Beyond this we must hope for permanent advantage in an Alterative course. The Mercurials are almost universally confided in. The Blue Pill or Calomel in small doses, should be administered until a moderate Pytalism is induced—and this should be kept up for some time—during which the morbid symptoms will generally be found to yield. Other alteratives have also been proposed—as Taraxacum—and the Nitrous and Muriatic Acids; the combination of the two, the Nitro Muriatic, has been much used in India both internally and as a bath. One of the best of our alteratives is Iodine, in very dilute solution.

When the Liver is tumid and heavy without pain, Epispastics may be repeatedly applied over it, and the Galvanic and Electric Currents passed through the Hepatic region.

In an obstinate case we should advise a visit to some of our watering places. Those fountains which like Balston and Saratoga unite a moderate purgative effect, with the tonic pungency of the Carbonic Acid Gas and the mildly alterative influences of Iodine in minute proportions, are most useful in Hepatic Diseases. There is much good done by the journey and voyage thither and homeward. In the meanwhile the strictest Temperance must be enjoined and the patient cautioned against indulgence in improper habits of every kind. He must live on the plainest food, retire early to rest, abstract his mind as much as possible from care, and guard against all passion and emotion. His clothing must be warm and judiciously adapted to protect him from the vicissitudes of weather.

ICTERUS—JAUNDICE.

This term is used to comprehend the series of symptoms which result from Obstruction of the passage of the Bile from the Liver into the Alimentary Canal.

The importance of this fluid in the processes of Alimentation, the perfect Digestion and assimilation of Chyle, and the fecification and expulsion of the rejected portions of food taken, is well known. The want or deficiency of it, is productive of serious evils. But it is supposed that Bile is not only a useful *Secretion*, but also an indispensable *Excretion*, containing certain essential constituents which are required to be regularly and unceasingly eliminated from the System. Its non-secretion, or at any rate the re-absorption of its ingredients into the vessels and their admixture with the circulating mass is hence assumed to be attended with injurious and well ascertained consequences.

These evil effects are still farther liable to modification, and additional suffering may result from the cause and nature of the Obstructions present; all which demand in turn a careful consideration.

1. When the function of the Liver is thus interrupted, and Bile no longer enters the Duodenum, the patient labors under Anorexia, Dyspepsia, Costiveness; the stools, when any are passed, being unnaturally pale or of clay-color. The complexion and eyes are yellow. The tongue is covered with a thick brownish fur, and a bitter taste pervades the mouth. There is extreme mental dejection with physical inactivity and feebleness. The suffusion of the skin and eyes deepens to an orange hue, and every solid and fluid of the body is of the like tint—"except," says Heberden, "the milk." Poets and Philosophers have affirmed the fact, and made it a subject of frequent allusion that Jaundiced persons see all objects yellow. This is a rare circumstance, but Good affirms it to have been true in his own case; here the very humours of the eye must have been tinged by the resorbed Bile.

There may or may not be certain local symptoms denoting Hepatic disorder—such as a sense of weight and fullness in the right Hypochondrium, pain at the top of the Shoulder, &c. These though dwelt on by authors are not essential, and indeed are totally wanting in the great majority of such cases as I have met with.

In the simple form of Icterus just described, I suppose the obstruction to the flow of Bile into the Intestinal tube, to result from a torpor or loss of tone and defect of action in the Biliary ducts, which fail to take up and transmit, thither, as is their office, the fluid secreted by the Sanguineous Capillaries—the ultimate ramifications of the Vena Portæ or of the Hepatic Artery. It is therefore of necessity reabsorbed by the radicles of the Hepatic veins or lymphatics and passes into the circulatory current.

The *Causes* of this Condition of the Liver are very various. It may result from Chronic Hepatitis—or follow the Congestions which form so prominent a part of the history of Mal'aria Fevers. I have seen marked

cases occur during the convalescence from Bilious Remittent and Intermittent, nay it may prevail, as if Epidemically, in certain unhealthy seasons, shewing the influence of Febrific Miasm upon the Liver and its functions. In the autumn of 1824 great numbers of persons—including an infinite majority of the convalescents from Bilious and Yellow Fevers of that year, were attacked with Jaundice.

Prognosis—generally favorable. This mild grade of Icterus is seldom dangerous or fatal, and for the most part easily cured.

Treatment. In the early stages an active Emetic will generally procure entire relief. If any thing farther be necessary, a mercurial or aloetic cathartic with energetic exercise and cheerful occupation should be advised. Horse back riding is to be selected. Frictions with the hand, or a flesh-brush on the right side and over the abdomen are serviceable. A current of Galvanic or Electric fluid may be directed along and through the region of the Liver.

2nd. The more important modification of Icterus and one not unfrequently met with, is that characterized by the presence of Biliary Calculi.

The attack in cases of this kind is sudden and full of extreme suffering.—The patient complains of intense pain, coming on without warning, often after a full meal, at or near the pit of the Stomach extending across toward the right side, with nausea soon increased to violent vomiting and accompanied by a sense of Abdominal distention. The pulse is little affected.—There is extreme anxiety and despondency. The Epigastric pain is usually permanent, and intolerably severe, and pressure at that region cannot be borne. It may in some instances subside or remit after a time and return with great violence—and this may be repeated until the sensibility of the duct is worn out—or inflammation may be excited and transmitted along the Duodenum and Intestines generally. The Bowels are costive and flatulent. The Skin and Eyes soon become deeply suffused.

The symptoms thus described are attributed to the passage, through the Duct leading from the Gall Bladder to the Duodenum, of Biliary Calculi or concretions of various constitution, size and form. These bodies are often found in great numbers in the Gall Bladder—and even in the bodies of individuals who have never shewn during their lives any symptoms of Jaundice. We find them occasionally in the stools of our patients, which ought with this view to be carefully examined. They are divided into 1st. Cholesterine Calculi—composed almost entirely of Cholesterine, an animal substance somewhat resembling Adipocire or Spermaceti, these are white, lamellated, shining and crystalized. 2nd. The Mellitic—the most common; brownish, composed of Cholesterine with Picromel and other animal matters, contained in Bile deposited in concentric layers. 3rd. Calculi of Inspissated Bile of dark yellow color and somewhat rare. Besides these I have seen Calculi of a beautiful green so dark as to seem almost jetty black with highly polished surfaces—others still have been described.—They are seldom round, but polygonal and angular. It is not known how they are propelled from the Gall Bladder where they are comparatively harmless, into the duct which they so vehemently irritate.

Prognosis---doubtful. We cannot explain the formation of these Concretions; but they are seldom deposited singly, and they seem to be connected with a condition of the Liver and certain alterations of its secretions, which, as we do not clearly comprehend, we cannot readily remove-

Such attacks are apt to recur in the same person. I saw the repetition in one patient, productive of Enteritis, and in this way indirectly fatal.

Treatment. It is not merely the mechanical distention of the duct to which we must ascribe the sufferings endured by the patient---but more probably a spasmodic constriction of its irritated coats, which close upon and thus detain the Gall stone. To relax this Contriction, we use the *Lancet* promptly and freely---administer *Opium* in the largest doses, and place the patient in the *Warm Bath.* The Bowels are to be well moved by efficient, though mild Cathartics and Enemata, and large Fomentations or Poultices kept to the Abdomen. To meet the first threatenings of Inflammation, we must apply Cups or Leeches to the right side and Epigastrium, and continue the effect of Purgatives moderately. This last measure must indeed be persisted in for a few days in a majority of cases, to remove the gastric and general uneasiness left by the attack. To prevent a recurrence of the symptoms, it is necessary to restore the Liver to its proper condition and action, in order that a healthy Bile may be secreted and poured into the Intestines. For this purpose, no better means are in our hands, than those recommended in the remedial management of Chronic Hepatitis.

In ancient times, Icterus was divided into species in reference to the *colour* of the Bile discharged, and of the body of the Patient. Thus, even Good recognizes *Yellow*, *Black* and *Green* Jaundice; and Marcard and Baillie sanction this view. I have met with a case of this last named variety, well-marked. The Adnata of the Eye was green;---the Alvine evacuations, the Saliva, and the Bronchial Mucus, were also deeply green. My patient was a black woman, convalescent from Small-Pox. The event was fatal, as it is asserted to be---uniformly---by the writers above alluded to.

PAROTITIS.

Cynanche Parotidœa—Mumps. By this appellation, we denote a peculiar inflammation of the Parotid, one of the Salivary Glands. It is attended with fever, headache, thirst, furred tongue, restlessness and depression of spirits. The Parotid is swelled and painful, impeding speech, deglutition, and mastication. One side only is affected in a majority of cases---now and then both sides. It rarely attacks the same subject more than once, and offers a peculiar tendency to metastasis or translation of inflammation from the part first affected to remote parts. In females, the Mamma, and the Testis in males, are apt to be very severely attacked---in both sexes the Brain also suffers occasionally. This is denied by some writers; but I have myself known three instances of violent Phrenitis occur on the subsidence of the original swelling.

Cause—It is contagious, and sometimes prevails epidemically.

Prognosis—favourable. The Inflammation usually terminates in perfect resolution; suppuration of any of the glands affected, being extremely uncommon. In a few there has remained an indurated enlargement of the part; and rather more frequently, a certain degree of softening of the Testis, and loss of bulk, has been observed. The greatest danger is to be dreaded where Phrenitis has supervened.

Treatment. In Children, the swelling should be rubbed gently with a mild stimulant Embrocation, and kept lightly covered. In young and robust Adults, *Venæsection* and topical bloodletting by *Leeches* may be required. This is absolutely necessary, where there is metastasis to the more delicate and important organs above indicated. Here, also, the free use of the active *Cathartics* is demanded; and when this has been carried to the full extent, the undue force of the circulation must be still farther reduced by nauseant Diaphoretics, as Ipecuanha and Antimonials.

The glandular indurations, when they remain, should be treated while tender and irritable, by Leeching and soft tepid Poultices---when they have become indolent, by Iodine Lotions and Embrocations. Iodine should also be exhibited internally in diffused Aqueous Solution.

When Metastasis has occurred to the Brain, as shewn by wild Delirium, &c. &c. the case must be managed by the energetic application of the treatment recommended under the head of Phrenitis.

SORE-THROAT.

Pharyngitis—Cynanche—Angina. This malady, which, after all the attempts to give it a name, is best designated by its ordinary appellation, is one of our most frequent diseases. It is essentially Pyrectic, and is properly divided—in reference to the type of fever attendant upon it, and the state of the general system in which it occurs—into *Inflammatory* and *Malignant*.

Inflammatory Sore-Throat is farther subdivided into Superficial—Ulcerative—and Phlegmonous; the first affecting the lining membrane of the posterior fauces and isthmus, the uvula, tonsils, pharynx and upper part of the Æsophagus, without lesion of the surface; the second affecting the same tissue, with ulcers more or less deep and extensive: while the third, as the phrase imports, affects not the surface merely, but the tissues beneath, exhibiting abscesses in the tonsils, and on the back of the pharynx.

1. Superficial Inflammation of the Throat, is attended with redness of the diseased part, its vessels being enlarged and distended, as in Conjunctivitis. There is a sense of dryness, with pain in swallowing—the uvula is relaxed, and sometimes ædematous, occasioning a tickling and disposition to cough. When the Inflammation is great, there is sometimes Otitis, with severe pain in one or both ears, attributed to its extension along the lining membrane of the Eustachian tube.

It occasionally happens, whether from any peculiarity in the nature of the Inflammation present, or merely from its intensity, I know not, that a layer of whitish or yellow lymph, is thrown out upon some part of the surface, to which it adheres, but perhaps not very closely, and is usually taken for an ulcer. It resembles the membrane formed in Croup, in Diarrhœa Tubularis, &c It seems to be connected with an obstinate and tenacious form of morbid action, which often runs into a chronic state. Again, you will sometimes find a thick, condensed and highly offensive mucus, collected in small hard lumps in the foveæ or crypts, which indent the surface of the Tonsil. They are apt to be mistaken for ulcers. I often press them out with a probe to the great relief of the patient. If they remain in the Cavities in which they are formed, they occasion swelling and pain, and perhaps are ~~lessened~~ by a slight suppuration, and hawked out.

2. *Ulcerous Sore-Throat*—Cynanche Ulcerosa—presents also various modifications, the Ulcers assuming very different aspects in different cases. Some of these varieties, it is well known, are peculiar and characteristic, in accordance with the specific state of constitution of the patient, as in Scrofulous and Venereal Maladies. But of these I do not propose to treat in detail. That which is the subject of present discussion, and is connected with ordinary inflammation, under common circumstances, is at first irritable and very sharply painful—its surface is grey or whitish, with red points—the edges being swoln, it seems excavated—it is disposed to extend itself, in all directions, with a rapidity proportioned to the intensity

loosened

of the inflammation connected with it. After a time, if the Ulcers do not heal, they become indolent, stationary and chronic; while the sympathetic constitutional irritation subsides wholly or in part. They occasionally extend slowly down the Esophagus, healing at some points, and spreading at others—the cicatrices where they heal, contracting and rendering Deglutition exceedingly difficult and painful.

3. *Phlegmonous Sore-Throat*——Cynanche Tonsillaris——Quinsy. On looking into the Throat, if we find one or both of the Tonsils projecting forward, with a fiery red and smooth surface, we have reason to fear the formation of abscess within their substance. This is to be dreaded as occasioning great and protracted suffering, by the impediment thus offered to Deglutition and Respiration—so great indeed as sometimes to threaten suffocation. Even when we succeed in procuring ~~Respiration,~~ there is often left an enlargement and induration of the Tonsils, which affect both the speech and hearing. There is, now and then, though rarely, abscess formed at the back of the Pharynx; and we have on record, a few terrible instances of Abscesses even in the Æsophagus. Resolu

Causes. Sore-Throat, in its several varieties, is excited by exposures to vicissitudes of weather and alternations of temperature—to currents of cool and damp air, showers, &c. In some individuals and families, there is special predisposition to it.

Prognosis—generally favourable. In the Adult of good constitution there is little danger—though fatal instances are now and then met with. Chronic Ulcer of the Throat, may wear out the powers of life by the constant irritation, and by its extension along the Esophagus.

In the Child—the Infant—Sore-Throat is a more serious disease. Even the superficial inflammation is not without some risk, being, at this age, readily convertible into the ulcerous; and if the ulceration extend into the Larynx, the case becomes almost hopeless. I scarcely know a more formidable disease than this modification of Laryngitis or Croup, combined with Sore-Throat. I do not recollect to have met with the Phlegmnous form—Quinsy, in a Child.

Treatment. In a robust Adult, it may be necessary to bleed freely from the Arm. Local bloodletting by Leeches, is almost always useful. Crampton and others propose to carry them to the inflamed spot. Emetics are often given in the first stage, and with advantage, if the Stomach is oppressed, the tongue foul, and the breath fetid, without vomiting. *Cathartics*, especially the Saline, are almost universally required. They may be combined with Diaphoretics—as at first Ipecacuanha and Antimony, and afterwards with the Infusion of Serpentaria or Seneka. When farther depletion is unnecessary, we may reduce the force of the circulation by moderate doses of Nit. Potass. combined during the day with an Antimonial, and at night with Dover's Powder. Various local applications are recommended. I disapprove of Gargles in the early stage, as painful and irritating. The steam of water, at a moderate heat, may be inhaled, to relax and sooth the parts, and procure a flow of saliva and mucus. After a time, the sedative and mildly astringent solutions, may be of some advantage—more especially where there is ulceration. Nit. Potass. Alum. Sulph: Zinc: Acet: Plumbi, and the Mineral Acids, are much used. Infus. Cinchonæ and Myrrh are among the best. This may require special attention in the cases of Children, the foul secretions from whose ulcerated

fauces, it may be necessary to cleanse with a Syringe or a bit of Lint attached to a probe.

The employment of the stimulating Gargles, so much in vogue, requires a nice judgment and some experience. It cannot be denied, that there are cases in which, even from the first, the Infusion of Cayenne is beneficial, but it is difficult to point them out; and it is a good general rule to abstain from the use of these washes, until the ulcer has become obviously indolent, and the case assumes a clearly chronic character. In such instances, I have done good by the solution of the Sulph. Cupri, and even by touching the ulcerated surface with the Nitrate of Silver. These cases farther demand the administration of Alteratives and Tonics. A mild Mercurial course, as of Blue Pill or Merc. Corros. Sub. may be alternated or combined with the use of the Bark and the Mineral Tonics, of which the best is the Tinct. Mur. Ferri.

The Uvula, it was said, is sometimes permanently elongated or relaxed, so as to fall upon the back of the tongue, and keep up a harrassing cough, which, in some cases, has been the precursor of Phthisis. To prevent this, it should be amputated. When the Tonsil is so much enlarged as to impede the Respiration, we must not hesitate to pass a Lancet freely into and across it. If an abscess has formed, we evacuate the matter at once; if not, we give relief by diminishing the bulk of the tonsil, and reduce its inflammation by emptying its vessels. If the tumefaction be so great, that the patient is in danger of being suffocated, an opening should be made in the Trachea, until the tumour subsides or suppurates. The Tonsils remaining indurated and enlarged, they should be freely scarified in all directions, or completely extirpated.

Malignant Sore-Throat. Cynanche Maligna—may be described as a combination of Ulcerous Inflammation of the Throat with the lowest grade of Typhus Fever. Sporadic cases are occasionally met with—but it is apt to appear as an Epidemic. Its proportional mortality is frightful. Its subjects are generally young persons and children, from Infancy to Puberty.

Symptoms. The attack is ushered in with Nausea and sometimes vomiting; there is oppression, restlessness, anxiety, the voice is coarse or husky, the skin dry and constricted, there is thirst; the pulse is small, compressible, very frequent—there is great languor and prostration. It is not in every case that there is any pain or difficulty in swallowing, but in examining the throat we find a dusky redness overspreading the whole surface of the pharynx, fauces, tonsil, and uvula. One or more ash colored ulcers soon appear, which spread rapidly but with little or no pain. They generally, though not always throw off sloughs, dark colored and offensive, with a foul discharge from the surface. An efflorescence often shews itself on the skin—but this by no means uniformly or even in the majority of cases as affirmed by European writers—who often confound Scarlatina Anginosa and Maligna, with our present subject. As the disease progresses the ulcers shew a gangrenous disposition. becoming livid or even black with great fetor. Diarrhœa comes on and the patient soon sinks exhausted.

The *Cause* of this malignant Pestilence is unknown. It is usually Epidemic in its prevalence. It is by many alledged to be contagious.

The *Prognosis* is highly unfavorable. The younger the subject, in general, the greater the danger. In early life there is special liability to the

extension of the ulcerous action into the Larynx, a combination absolutely hopeless and of course fatal.

In older subjects we judge of the degree of risk as in Typhus Fever—with less reference to the local affection. In all, however, it is proper to examine the ulcers with attention. We have every thing to fear when they are livid, or dark and gangrenous—on the contrary a florid aspect with contracting granulations is favorable.

Treatment. The general management of the patient is similar to that recommended under the head of Typhus Fever. It is the general practice to premise an Emetic. Ipecac is perhaps the best, but some prefer the Antimonial as more active, and others regard the Sulph: Cupri as exerting a special efficacy. I see no great objection to either. Our permanent reliance is upon the class of Stimulating Diaphoretics which may be employed in turn—the Infusion of Serpentaria or of Seneca—the combination of Carb: Potass with the Tinct: Opii Camphorata, the Acet: and Carb of Ammonia—the Nit: Ether and the Infus Cinchonæ, while a generous and stimulating diet of fluid nourishment is allowed with wine in proper amount if necessary, the Bowels in the meantime being gently acted on by some mild Cathartic; I prefer to all others the combination of Mer: Dulc. with Pulv: Rhœi in small doses, and at proper intervals.

Of local applications, I regard the Blister and the Leech, to be alike of equivocal effect, and prefer the mustard poultice to either. The ulcers must be kept scrupulously clean. The Gargles should be somewhat stimulating. The Infus. Cinchon. with Myrrh or Camphor or with the mineral acids is much to be confided in. The Infusion of Cayenne pepper is greatly in vogue, and often does good service. It is given freely as a stimulant besides its employment as a gargle or lotion. I do not doubt its efficacy.

DISEASES OF THE RESPIRATORY SYSTEM—THE LARYNX, TRACHEA, BRONCHI, LUNGS, &c.

CROUP.

LARYNGITIS—CYNANCHE TRACHEALIS—EMPRESMA BRONCHITIS—TRACHITIS. *Croup* is one of the most common maladies of children, in whom it is rarely met with, before they have been weaned. Occurs seldom in mature life—though a few individuals remain subject to it. It consists in a well known and peculiar Dyspnœa attended with cough and febrile excitement. The voice is exceedingly husky and the cough is characteristically harsh, stridulous and ringing. The access is usually towards evening, when the child presents the ordinary appearances of Catarrh or common cold, with sneezing, &c. His Breathing becomes rapidly more and more difficult, and fever comes on with flushing of the face and suffused and watery eyes. He sits up in bed and his struggles for breath are frightful. If not soon relieved, his face is swollen and turgid, and his countenance livid or very pale, while his eyes protrude, and his skin is bedewed with sweat. Expectoration of a thick tenacious mucus diminishes his sufferings and he sinks exhausted to sleep. His respiration is still hurried and croaking and a mucous rattle is soon heard over the whole Thorax. Portions of a flaky membrane are sometimes coughed up with great alleviation of his Dyspnœa. His paroxysms ~~occur~~—if art has not arrested his disease—and he sinks worn out with his violent exertions to continue the process of Respiration.

Cause. Exposure to vicissitudes of weather—to changes of temperature, to cold and moisture—to particular winds as with us the E. and N. E. give rise to attacks of Croup. In some children the predisposition is so strong that any exposure to night-air will bring it on. It sometimes arises from the extension of inflammation and ulceration of the throat into the Larynx. I have seen it I think produced by Gastric disorder and irritation.

Pathology. Croup consists in an Inflammation of the lining membrane of the Larynx and Glottis—which by its swelling closes the Rima—or by the effusion of thick tenacious mucus, endangers suffocation unless the patient is able to expectorate—or admits the deposition of flakes of fibrine, the "false membrane" so often spoken of, and incorrectly considered by some writers as uniformly present—which clogs up the passage of air into the Lungs. Some authors contend for the existence of a Spasmodic Croup, in which there is a spasmodic constriction and closure of the Glottis, but this is not established.

Autopsy. The appearances vary with the duration of the case. If death occurs early, we find the lining membrane of the Larynx thickened and highly colored; if there be greater protraction of the attack, this state of the membrane is continued down through the Trachea, and its ramifications forming true Bronchitis, and the air tubes are clogged up with a thick mucus. In such instances we find more or less in-

flammation of the Pulmonary tissue—the Lungs being to a considerable extent Hepatized or Solidified. The membrane above mentioned is sometimes found in small flakes adhering to parts of the surface—or in the shape of a complete tube—or in solid mass. There is sometimes ulceration of the surface in those cases connected with sore-throat. I have a preparation of a Larynx which exhibits at different points of its snrface the adhesion of flakes of Lymph and an extended Ulcer.

The *Prognosis* is generally favourable. Croup, though alarming in its onset, is, if seen early, very much under Medical controul. The danger is in proportion to the Dyspnœa—except where there is ulceration of the Larynx. Such cases are insidious, but prove almost uniformly fatal. Free expectoration is a good symptom—a hard, dry, ringing cough, the reverse. The extension of the morbid irritation to the Bronchi and Lungs, of course, adds to the danger.

Treatment. We may sometimes succeed in arresting the threatened attack of Croup in subjects predisposed, at its commencement, or during what may be called the Catarrhal stage, by immersing them in the Warm Bath, and administering a full dose of the Tinct. Opii Camph.—which proves Stimulant, Diaphoretic and Anodyne. As soon as the peculiar Cough is heard, an active *Emetic* should be given, which will often put an end to all the uneasiness suffered. I prefer the combination of Ipecac. with Tart. Antimon.—and if there were much Dyspnœa, would administer it while the Child was seated in the Warm Bath. If febrile excitement have had time to develope itself with full pulse, flushed cheek, and sparkling eye, the Lancet should be employed, and perhaps Leeches may be placed about the throat. The *Emetic* should be repeated, and the bowels moved by uniting with it some *Cathartic*. *Calomel* may be chosen; but I would not confide in it alone, or to the exclusion of other remedies. *Squill* and *Seneka* are much and justly extolled, as combining obvious Expectorant and Diaphoretic effects with their Emetic property—they may, in protracted cases, be exhibited repeatedly at intervals with advantage. As soon as the Leeches are removed from the throat, large Poultices should be applied, at first made irritating by the addition of a little Mustard. At a later stage, they should be made to cover the whole Thorax. No disease is more generally managed by domestic means with success. A plaster of *Scotch Snuff* is mentioned by Godman, as highly efficient in arresting it in the forming stage. The Alkalies are much employed. Common Ley internally, and as a bath, is serviceable. Some parents give the Vol. Liniment—Spt. Corn. Cervi, with Olive or Lamp Oil and Molasses. Others administer Indigo, which operates harshly both by vomiting and purging.

With regard to the operation of Tracheotomy, so much discussed, I would offer this rule. If a child were in imminent danger of suffocation, in the earlier period of Croup, from sudden closure of the Glottis, either by swelling of the lining membrane, or by the deposition of membranous flakes, while yet the air tubes beneath were permeable, as inferred from the absence of the mucous râle, and from the respiratory murmur being heard throughout the Lungs, I would open the windpipe. But it is idle and useless to do this when the inflammation, engorgement and effusion of mucus have extended into the Thorax; the case is now Bronchitis as well as Laryngitis, and the operation can give no relief.

See page 134 Examination of the Thorax

BRONCHITIS.

Under this term is treated of the Inflammation of the Mucus Membrane which invests the Air tubes—the Trachea and Bronchi, and the cells of the Lungs. It is divided into Acute and Chronic.

Acute Bronchitis resembles closely, in the first instance, an attack of Catarrhal Fever, from which it is then only distinguished by a more special prominence of the tokens of local and thoracic irritation and inflammation. Its access is usually with a chill, accompanied by a sense of soreness and stricture in the Trachea, and a tickling, dry and frequent cough; fever soon follows, with harsh hot skin, flushed face, thirst, pain in back and limbs. In some cases, the Dyspnœa is urgent, with a distressing tension across the chest, and much pain in coughing. The patient cannot lie down; a crepitous rattle is heard and felt throughout the Thorax; but though oppressed with the accumulating mucus, he cannot expectorate. If these symptoms be not promptly relieved he may sink exhausted by his struggles; but in general the expectoration becomes somewhat freer and fuller, and the disease subsides, or passes into a Chronic condition.

Post-mortem examination shews the mucous lining membrane highly injected and thickened; the tubes and air cells being filled with a secretion of varied appearance, sometimes a tenacious ropy mucus, again a thick purulent fluid, and mingled occasionally with a serous, ichorous or sanious effusion. The substance of the Lung partakes of the results of the Inflammation, and its tissue is solidified, or as the phrase is, hepatized and incapable of collapse.

Causes. Exposures to cold, moisture, and alternations of temperature are familiarly known to produce Bronchitis. It has been excited by inhalation of some of the irritating Gases. It is more frequently met with among persons engaged in certain occupations—Millers, Cotton-ginners, Needle-grinders, &c.

The *Prognosis* is readily inferred from the degree of Dyspnœa, and the apparent ability of the patient to struggle with the impediment to his breathing, and to bring out from the air-passages the offending mucus. Free expectoration is therefore favorable, and a hard dry ringing cough the reverse. Very old, and infirm persons, and young children suffer the most serious risks.

Treatment. Venæsection is in most cases an indispensable remedy, and must be promptly carried to as great an extent as can be borne without injury. *Emetics* are highly serviceable, both as Expectorants and Diaphoretics, and are peremptorily demanded in the cases of infants and the very aged. They may be repeated from time to time. Ipecac—Squill and Seneka are preferable; if these are not sufficiently active, Tart: Antim. may be added. *Cathartics* are always useful. I select the Saline, and combine them with Diaphoretics as the Infusion of Serpentaria or Seneka. Much has been said against the employment of Cathartics in thoracic disease, but these objections are speculative—experience shews them to be, in

the early stages not only safe, but admirably beneficial. In the advanced periods of such cases they are not required, but the Bowels should be kept regular and soluble throughout. *Nauseating* doses of Antimony and other Diaphoretics are much extolled. I am not fond of the practice, but prefer to use the same remedies in less amount, so as to reduce the undue force of the circulation.

When the febrile excitement is in some measure subdued, *Opium* is an invaluable medicine. Dover's powder is a good combination, to ensure its effect as Diaphoretic and Anodyne.

Of Topical applications—after Cupping I prefer warm poultices, with which I envelope the throat and cover the chest. Leeches imply too much exposure. To relieve the Cough, Demulcents, are required; Mucilaginous mixtures with Opium form the basis of the most valuable. Spermaceti formerly often prescribed; is now too much neglected. In the Bronchitis of infirm old people—the Peripneumonia Notha of writers of the last age—Stimulating Diaphoretics and Stimulants are demanded and must be given freely. Camphor and Ammonia are among the best. Opium must be prescribed with some caution. The strength must be supported with wine-whey, wine, &c. We cannot detract Blood from such patients, but dry Cupping will often be of service—the mustard poultice should be applied—and here also Blisters will be found well adapted.

Chronic Bronchitis—is usually a consequence of the acute form; but may occur as a primary affection, in which case it is developed slowly and insidiously. There is Cough with slight soreness of the Trachea and Thorax—a sense of stricture and tightness increased on drawing a deep breath, the voice is somewhat hoarse, and a crackling or râle is felt and heard in breathing. The cough becomes more harrassing and severe; the expectoration at first scanty, increases in amount, and changes from mere mucus to a mucupurulent consistence, sometimes colored with a little blood. In a few cases Hemoptysis may happen, but this is not frequent. Respiration is hurried, and panting attends any muscular exertion or the ascent of a stair. The Pulse is tense and frequent, and a febrile exacerbation shews itself at first in the evening, going on to a full developement of Hectic, with night sweats—emaciation and great loss of strength, diarrhœa, &c. &c.

Autopsy. The Bronchial mucous membrane is high colored and thickened, and in many places eroded with ulcers. The Lungs are found Hepatized or solidified—the air cells and tubes filled with mucupurulent matter mingled with a frothy and bloody serum.

Prognosis. The unfavorable indications are chiefly drawn from the degree of Dyspnœa in the early stages, and at a late period from the atrophy and emaciation which waste the patient. An extreme frequency of Pulse is unfavorable—so is the absence of the respiratory murmur in any considerable portion of the Lungs, with a loss of the proper degree of resonance on percussion.

Diagnosis. The distinction between Chronic Bronchitis and Tubercular Phthisis is often difficult. In the latter there is less Crepitus or râle—less soreness of the Trachea and Thorax—more tendency generally to Hemoptysis—and less expectoration in the early stages. In their latter progress we can draw no line between them, except from their previous history.

Treatment. The Lancet is in most cases required but must be employ-

ed with caution. We derive most advantage from small bleedings repeated. Leeches may be applied to the throat, and Cups to the chest with benefit. Even after we can no longer detract blood, dry Cupping the Thorax is useful. *Emetics*—are much confided in and great stress laid on the preference due to particular articles. Ipecac is generally chosen—some combine it with Tart: Antimon: and others with the Sulph: Cupri. The utility of Emetics is unquestionable—they are expectorant, Diaphoretic and in most instances move the Bowels sufficiently. To soothe Pulmonary irritation and keep up a constant determination to the skin, we may exhibit a combination of the Nitrat. Potass. with Dover's Powder—allowing a full dose of Anodyne nightly at bed time. A choice of the numerous preparations from Opium may be made to suit each particular case. I do not think any other of the Narcotics as the Lactucarium—Hyoscyamus, &c., entitled to our confidence. The Digitalis may do service when the pulse is particularly frequent. Squill is highly prized by some as an expectorant.

The Infusions of Serpentaria and Seneka, afford good basis for the Mucilaginous, Demulcent and Anodyne Solutions, administered to relieve the troublesome Cough. In threatening cases, I would advise an unhesitating resort to an alterative Mercurial course. Calomel, in small doses, or the Blue Pill, may be so given, as to produce highly beneficial results—while it should not interfere with the proper employment of such other remedies as may be demanded. Inhalation of various airs and gases has been proposed; but, after a fair trial, I have abandoned them. The Vapour of Ether, in which Cicuta has been macerated—that of burning Tar and of Resin—Iodine and Chlorine, have been extolled.

The several Balsamics were formerly much in vogue. Myrrh, Tolu and Copaiva are the best of them. "Pine-gum Pills" and "Lightwood-Rum," are common domestic prescriptions in the south and south-western States.

Tonics may be made of great benefit, by a proper selection of the period for their exhibition, and the cases to which they are adapted. I would use them when the tokens of muscular debility and general relaxation were more prominent than those of local irritation or febrile excitement. The Infusion of Cinchona with Mucilage, is lauded by Broussais and Hastings. The Elixir Vitriol and Tinct. Mur. Ferri, are also useful. They aid in restraining nocturnal sweats.

The persevering application of counter irritants to the chest and arms, has often been of great advantage. I prefer to blister successively one and another portion of the surface. The Tartar Emetic is a favourite irritant with many Physicians, while others still prefer Setons and Caustic Issues.

The Convalescent must take as much exercise in the open air as he can undergo, without fatigue. A long journey or a sea-voyage should be advised, and an equable climate chosen. Flannel should be worn next the skin, and all undue exposure avoided.

PLEURITIS.

Pleuro Pneumonia—Pleuro Pneumonitis. *Pleurisy.* Under this head I propose to treat of *Acute Pneumonia*, as well as of Inflammation of the Pleura, in all its extent, and its various local connectious and subdivisions. In their access and early stages, it is not possible to distinguish inflammation of the Pulmonary tissue from that of its investing membrane. although in their results and consequences, there may be some ultimate difference. Besides this, they never occur separately or entirely independent of each other; and in a practical point of view, the Diagnosis is as unimportant as it is confessedly difficult—the indications of cure, and the details of Treatment, being precisely the same in both.

Pleurisy is a common and well-known disease; usually met with in Winter and Spring, and frequent in occurrence in proportion to the degree and suddenness of the changes of these unsettled seasons. It comes on with pain in the Thorax—most often perhaps the right side—fixed and circumscribed, and much increased by a deep full inspiration; the breathing is therefore hurried, short, and catching and the patient assumes a bent posture leaning to the affected side. Fever soon supervenes with sharp and rapid pulse—a skin hot and dry, and a harsh cough which aggravates intolerably the Thoracic pain.

The results or "terminations" of this Inflammation, if it progress unchecked, are somewhat various, but from the importance of the organs attacked are full of suffering and danger. The most common is the effusion of fibrine or Lymph, in layers upon the serous membrane, which becomes organized and causes adhesion between the opposite surfaces of the Pleura Costalis and Pleura Pulmonalis, impeding somewhat the movements of respiration and occasionally giving pain. Upon this false membrane are occasionally seen streaks of purulent matter. The Pulmonary tissue not unfrequently becomes solidified, losing its light cellular texture; this change is spoken of as Hepatization of the Lung, which becomes granulated and assumes a livid brownish color. Allied to this condition is the establishment of Chronic inflammation of a portion of this tissue, tending to the formation of Abscess and perhaps the developement of Tubercle—Chronic Pneumonia—one of the recognized forms of Phthisis Pulmonalis. Cullen speaks of a sanguineous infiltration into the cellular structure of the Lungs as a common termination of Pneumonia when it proves fatal; I have not seen it.

Chronic Pleurisy, with effusion of seropurulent fluid is spoken of by Law and other English writers as an ordinary result or sequela of the acute form. I have never met with it. It is known by the continuance of Dyspnœa after the earlier acute symptoms have subsided—by fullness of the affected side of the Thorax, perceptible to the eye and ascertained by measurement—by want of resonance on percussion, and of the natural vibration of the chest, felt by the hand applied, while the patient breathes or speaks, and by the absence or dul ness of the respiratory murmur.

Hydrothorax—Hydropleura is regarded by some as a termination of Pleuritis, Acute and Chronic. I have discussed the subject elsewhere in speaking of Hydropic Affections.

The *Causes* of Pleuritic and Pulmonic Inflammation have been already pointed out—as exposure to cold and moisture, and to sudden changes of temperature. External violence may give rise to it;—the puncture from Spiculæ of a fractured Rib occasion it, and a fatal case is on record where the Pleura was injured by a needle employed in passing a ligature round the Subclavian Artery.

Prognosis. In our warm climate, Pleurisy may be regarded as a highly manageable disease, and attended with little danger if the patient is seen early. In the first stage, the degree of danger may be inferred from the extent of the inflamed portion of surface, the violence of access, and the capacity of the patient to bear the necessary remedial measures. As the case progresses, the increase or obstinacy of the Dyspnœa is unfavourable. By exploring the Thorax, we derive definite information of the condition of the Thoracic Viscera. All tokens of effusion or deterioration of structure, are of course to be dreaded.

Autopsy. In speaking of the results or terminations of Pleuritis, we have anticipated a description of the changes found post mortem.

Treatment. The *Lancet* used promptly and boldly, at the onset of the disease, will often put an end to it at once. It is to be resorted to at all stages while the *breathing is painful*, unless the pulse is specially feeble, and the strength of the patient has notably failed. Topical depletion by Cups, which should be applied on and near the seat of pain, is next proper; after which, large warm Poultices should be laid over the Thorax.

Cathartics are highly useful; and in severe cases, those which are somewhat drastic and irritating, should be chosen. No prejudices have less foundation, than those which exist against the use of Purgatives in Pulmonary Inflammation. They are among our best revulsives; but their employment should be confined to the early periods of acute cases. It is advantageous to combine an Antimonial or other Diaphoretic, as in the common formulæ of Jalap with Pulv. Antimon., or of the Nit. Potass, with Jalap and Antimon. Tart. I have seen little or no benefit from the exhibition of Emetics, so strongly recommended by some. Among the Vegetable Diaphoretics, the Infusions of Seneka and Serpentaria and the Asclepias Recumbens, are deservedly extolled. The combination of Ipecac. with Opium in Dover's Powder, is an invaluable remedy; a full dose of it should be given nightly, and it may often be added at regular intervals to such other Medicines as may be prescribed through the day. The Demulcent Drinks, formerly spoken of, may be taken to relieve Cough. Where some pain remains after the febrile symptoms have been subdued, and the Pulse has lost its force and tension, the part should be repeatedly Blistered—a measure which I have found singularly impressive and efficacious. Where Effusion is ascertained to have taken place in the cavity of the Pleura, the urgency of the Dyspnœa may demand the operation of Paracentesis.

Bilious Pleurisy. The Thoracic Inflammations which occur early in Winter and late in Spring, in our low miasmatic regions, are apt to be combined with notable symptoms of Gastric and Hepatic disorder. I have been disposed to attribute the modification to the impression of Mal'-

aria; an English writer of some authority, speaks of it as owing to an atmospheric and epidemic influence. In this form less vigorous depletion by the Lancet is required or admitted of, than in Simple Pleurisy. Emetics are useful—Cathartics are prescribed more freely, and the Mercurials selected. Blistering is earlier resorted to. The Bark is said to be serviceable in protracted cases.

Convalescence from Pulmonary Inflammation, requires great care and prudence. The clothing should be warm, and all exposure cautiously guarded against.

PHTHISIS PULMONALIS.

Under this head I include Chronic Pneumonia, and Tubercular Inflammation of the Lungs. Dr. Duncan divided Consumption into three kinds 1. Catarrhal Consumption, identical with Chronic Bronchitis, already treated of. 2. Apostematous Consumption, our present subject—and 3. Tubercular Consumption which shall be considered next in order.

Chronic Pneumonia with abscess is not so rare a disease as it is represented to be by Laennec and some others. It has been alluded to as among the Sequelæ of Pleuro-Pneumonia, and may perhaps follow Catarrhal Fever, and Bronchitis. I have seen it twice occur from gun-shot wound of the Lung; in one case it was fatal, the other recovered after long protracted illness. Wounds of the Lungs, however, often heal kindly. It may supervene upon Asthma—and results from tenacious Gastric and Hepatic derangements, constituting the Dyspeptic Phthisis of W. Philip. Hemoptysis is said to produce it—but is in general only a coincident effect from the same cause. Some of the Exanthemata as Measles and Small-pox render the patient exceedingly liable to it. It has been brought on by the suppression of Itch and other cutaneous eruptions.

An obvions predisposition is found in a flat or narrow or otherwise ill constructed Thorax.—Sedentary occupations which exclude from fresh air and free exercise predispose to it—so do all such trades as subject the Respiratory organs to mechanical irritation, as with Millers, Needle-grinders, Cotton-ginners, &c.

The formation of pulmonary Abscess is attended by a fixed heavy pain in the Thorax, pulsatory, or at intervals sharp and lancinating. There is Dyspnœa which does not admit of muscular exertion, and is increased also on lying down, especially if the patient attempts to rest on the sound side; but this rule is not without exceptions. The cough is severe, but at first without expectoration. The Abscess sometimes empties itself through small openings and gradually, but in general bursts and discharges its contents freely and suddenly—Pus being coughed up in quantities, varying from ounces to pounds. There is great relief at the time, and the expectoration continues abundant for a while after, consisting of pus mixed with mucus and sanious serum. Recovery sometimes happens from this state —but more commonly Hectic supervenes, in place of the inflammatory type of fever which had attended the formation of the Abscess—there is great emaciation and muscular debility—the voice is weak and hoarse, and colliquative sweats and Diarrhœa terminate the tedious train of suffering. The Pulse is at first tense and quick and in some cases full—after the abscess is matured it becomes very frequent and more contracted. The digestive system in many instances remains unimpaired until the last stages —Diarrhœa then coming on with redness and ulceration of the lips, cheeks, gums, and tongue.

The *Prognosis* is unfavourable, holding perhaps a middle rank between Bronchitis and Tubercular Phthisis. When a case occurs in a person of

well-formed chest, previously healthy, and from a transient and notable cause, there is good hope of his restoration. The worst symptoms are great emaciation and debility. By careful exploration of the Chest, we can ascertain the extent of the Pulmonary disorganization—to which the danger is pretty regularly proportioned.

The duration of Apostematous Consumption is very various—from a few weeks to many months.

Autopsy. Laennec and Andral declare it to be quite uncommon to find Pus in a circumscribed cavity in the Lung in this form of Pulmonary disease—the frequent mention of Abscesses by other Pathologists, being attributed to their having mistaken tubercular vomicæ (to be hereafter spoken of) for Abscesses. They describe purulent infiltration as supervening upon hepatization—the colour being changed from red to grey, and the matter being diffused through the Lungs—the texture of which is broken down and softened. There is, however, good proof that encysted or circumscribed Abscess does occur. A large one is described by Laennec himself. Nor can we otherwise account for the fact of large and sudden evacuation of Pus after Pulmonic Inflammation, Cough, &c. have existed for some time. Such cavities are lined by a false membrane, or layer of organized fibrine.

Diagnosis. Apostematous Phthisis is attended with more pain and dyspnœa, than Chronic Bronchitis or Tubercular Phthisis, and with less expectoration than the former, for some time from the commencement. If a considerable amount of purulent matter be suddenly discharged, we infer that it must have collected in an abscess. The physical signs of this state of the Lungs, are the lessening of the capacity of the Thorax—the dull sound upon percussion over the pained part, and the loss of respiratory murmur there, and after the Abscess is empty—Pectoriloquism.

Treatment. While pain urges, and until the failure of pulse and strength absolutely prohibit, *Venæsection* to small amount should be repeated occasionally. Cupping the affected side of the Chest, at first with, and then without, the Scarificator, will be of much service. Large Warm Poultices are also useful. Blisters applied in long succession, are among our best remedies. When in any way unsuited, the Ung. ex Tart. Antimon. may be substituted.

Emetics have been much employed by different Physicians, and with very different views. Some suppose them specially adapted to procure resolution and absorption of any deposit—others exhibit them to rupture the Abscess—others still use them perseveringly as the most efficient revulsive. Some prefer Ipecac. alone—others prescribe it in combination with the Sulphates of Zinc and of Copper.

The *Antimonials* have been highly eulogized—by some as the best Emetics—by others, for the property of reducing the pulse and exciting protracted nausea—while Laennec and many continental Physicians, look upon the Tart. Antimon. as gifted with a specific remedial influence, and give it in large and increasing doses as a contra-stimulant. These consider it as most beneficial when alone and uncombined. In this country, it is often exhibited in combination with Nitrate Potass to reduce vascular excitement and determine to the surface—or with the Infusion of Seneka and Serpentaria. With similar views, and as exciting a tranquillizing influence of great advantage, I employ the Dover's Powder, both before and

after purulent expectoration has appeared. *Mercury*, in small doses, is occasionally administered with much benefit—but it is not adapted to all cases, nor should it be carried to the extent of an irritating Ptyalism. In the first stages, it is useful in moving the bowels gently, and subduing any gastric or hepatic disorder that may be present.

Digitalis has been the subject of extravagant eulogy; but I do not consider its remedial influence as well-marked or striking. It is best adapted to cases where great frequency of pulse exists, and the tokens of inflammatory excitement are not particularly high. The *Prussic Acid* has been in like manner extolled, and some authentic reports made in its favour—but it has not retained the confidence of the profession. After the Abscess has been ruptured, as will be known by the sputæ and pectoriloquism, if the expectoration be free and without pain, we may derive advantage from the Infusion of Cinchona, with which Mucilage and Anodyne may be united. The Mineral Acids are also serviceable as Tonics here. On the other hand, if there still remain tension across the chest, with a harsh cough, it may be necessary to take blood from the arm, or apply the Cups and the Poultices or Vesicatories, and even to administer an Emetic, which will often give great relief. If Diarrhœa should come on, it must be restrained by the Acet: Plumbi, Kino, or such other astringent as is best adapted—~~which~~ we indulge the patient, with free doses of Opium, which will aid in checking the Alvine disturbance, while it subdues, in an unequalled degree, the Pulmonary irritation and Cough. Among the numerous formulæ prepared by modern Chemists from its constituent principles, some one will surely be found without objection. The other Anodynes may be tried—Thrid ace—Lupuline—Hyosciamus—Cicuta—but I have no confidence in any of them. With the view to promote the healing of the Abscess or Ulcer, inhalations of Gases, and even of finely-pulverized Bark, and other remedies, have been advised. Iodine has been tried—Chlorine—the Vapour of Tar, of Rosin---several of the Gases less stimulating than common air, as mixtures of Hydrogen---Nitrogen---Carbonic Oxyde, &c. I cannot express any confidence in these measures. The Balsamics are also in ancient repute for the same purposes. If any good be done by such prescriptions, it must be in an indirect way. Our best hope is, in keeping the constitution at its highest point of tone and vigour. As soon as the patient can bear it, exercise in the open air must be advised. He should take a jeurney or sea-voyage. Flannel should be worn next the skin, and a diet chosen for him, nourishing but unstimulating.

TUBERCULAR PHTHISIS.

This insidious and fatal form of Pulmonary Inflammation derives its name as well as its other characteristic peculiarities from the presence of *Tubercles* in the Lungs. It is therefore proper here to enter into the consideration of their nature and origin.

Tubercle is variously described by authors. In the condition most commonly met with, it is a pale yellow or yellowish grey, opaque, inorganic substance, somewhat resembling cheese in appearance, soft and friable. Carswell regards the mucous and serous surfaces and the blood "as the exclusive seats of tuberculous matter"—it is principally found, deposited in the first of these positions. It is composed of Albumen Gelatine and Fibrine with a very small proportion of muriate of Soda and Phosphate and Carbonate of Lime. The majority of Pathologists suppose it to be deposited in this solid form—Cruvelhier asserts it to be at first fluid. Laennec contends that a Tubercle grows by intussusception, but the opinion of Andral prevails, that it increases by the successive deposit of molecules around the primary granule. When deposited "each granule," says Morton, "retains its appropriate tunic of cellular tissue." The deposition may go on until the mass shall occupy an entire lobe of the Lung. The softening of a Tubercle is not well explained. Laennec and others contend that it always commences in the centre--a view hardly consistent with the acknowledged inorganic state of the mass. It seems more probable that it results from inflammation of the ~~intestinal~~ cellular tunic above spoken of, upon whose surfaces pus is effused, mingles with and macerates the tuberculous matter. Tubercles are not constant in their form. They are often rounded and contained in a sort of circumscribed cavity in a cyst, the inner surface of which secretes purulent fluid.

But Tubercle it is well known is not confined to the Lung—it is met with, as mentioned in the Lecture on Scrofula in many and various locations, and is so often connected with the other Phenomena of strumous disorder, that it is by many supposed to be exclusively the product of Scrofulous constitutions. Whether this be absolutely true or not, it is certain that Scrofula constitutes an obvious and strong predisposition to the formation of Tubercle; and that Tubercular Phthisis is hereditary and of lamentably common occurrence in strumous families.

Another question of great importance is, whether Tubercle is ever the result of common inflammation in a constitution previously sound. The alarming opinion that it can be thus developed is held by Andral and others —but I am inclined to believe that Inflammation is only to be regarded as the exciting cause of the series of symptoms which constitute Phthisis. The deposition of Tubercle I believe, to be independent of, and often unattended by inflammation in any form or degree. When this deposition has taken place, it may go on, and by its bulk excite inflammation round it and thus develope Phthisis—or it may remain in minute mass and indolent, until inflammation of the surrounding parts shall be excited by some extraneous

interstitial

cause, when its ~~intestinal~~ cellular investment shall secrete pus, and by this process soften the tubercular mass—Pleuritis Pneumonia and Bronchitis being thus converted into Tubercular Phthisis. *Phthisis* by a large proportion of writers of a past age, and in many countries now, was and is considered as communicable or contagious; and within my own observation so many circumstances have occurred which seem to confirm the doctrine, that with Cullen "I dare not assert that Consumption is not contagious."

Symptoms. The access of this fatal malady is often extremely gradual and obscure. The patient is scarcely disposed to complain, though harrassed by a dry hacking cough with occasional pain in the chest heavy and deep-seated. There is languor and debility, and after a time notable emaciation, though the appetite is unimpaired and the digestion good. Hemoptysis may now and then follow a fit of coughing, though the hemorrhage is not apt to be very large. As the case progresses, the respiration becomes hurried, with frequent pulse, and on ascending a stair the patient pants, and his countenance is pale or livid, he cannot lie down at night without uneasiness, or is confined to one side or to his back—there is oppression or tension of the Thorax with a disposition to stoop or lean forward—Hectic ensues with its long train of derangement and suffering—Colliquative sweats and Diarrhœa—the tongue and mouth being covered with apthous ulcers, though the inclination for sapid food may hold out to the last—and the patient ultimately sinks after an indefinite protraction of his tedious disease inabsolute Atrophy or Marasmus.

Prognosis very unfavorable—recovery scarcely to be hoped for. It can hardly be possible that a single tubercle or even one mass of tubercles exists alone;—if so there might be a softening and expectoration of them and the patient would be in the state described under the head of Apostematous Phthisis after the rupture of the abscess. It might heal. But the formation of Tubercle in the Lung is generally a mere portion of the general diathesis or constitutional derangement, and similar deposition goes on or is repeated from time to time. It is consoling however, to know that in many instances, an indefinite protraction of life is attainable by judicious and proper management.

Diagnosis. The unfavorable prognosis which a melancholy experience enforces from us, requires from us great care in distinguishing this, from more hopeful forms of disease. The Pathognomonic signs are not very clear. The slowly progressive, gradual increase of the symptoms will attract our notice. We will inquire if the patient be of strumous family or have exhibited in early life any Scrofulous developements---or if his parents or ancestry have died of Consumption. His expectoration will not be abundant, and mixed with much mucus from the first, as in Bronchitis; nor suddenly augmented with pus as in the bursting of a vomica. The pain will not be at any time as acute in any part as it is from the commencement of Pleuro Pneumonia although it will in its progress be actually complicated with this affection---nor will there ever be so general a soreness of the respiratory tubes, as in the former.

There is in these cases too, a tenacious cheerfulness and resolution and hope of recovery, proverbially noticeable. It lasts until the impairment of the Digestive function which is often delayed to the very last moment of life. The physical signs are rather negative than positive in the first stages---the

absence of respiratory murmur may be remarked in more than one spot of the Thorax, and after a time Pectoriloquy will be distinctly observable.

We should be aware that Tubercular Phthisis may go on to a fatal termination without pain in the Thorax or Dyspnœa in notable degree, or Cough. I once saw a patient die, the nature of whose case—from the absence of these symptoms—was not detected, the right lobe of whose Lung was found, after death, a mere mass of Tuberculous matter. I attended in the last weeks of his life, an eminent literary gentleman whose Physicians had treated him for Chronic Hepatitis and Diarrhœa. He was surprised at learning that his Lungs were at all diseased, as he had labored under no difficulty of Respiration and almost no cough, but desired that his body should be examined. In complying with his request I found his Liver little, if at all affected, and his lungs full of Tubercles.

The relations of Phthisis with other Diseases should be noticed here. Its connection with other and more obvious forms of Scrofula has been mentioned. Children who have been specially subject to Epistaxis, are apt to fall into Phthisis after Puberty. Hemoptysis is also a coincident effect of the same malformation and defect of organization which predisposes to Phthisis.

Fistula in Ano is very often observed in subjects predisposed to Phthisis, and even after Phthisis has commenced: in this case it may suspend or protract the progress of the latter indefinitely. There is said by authors to be a similar connection or alternation between *Mania* and *Phthisis*, but I have had no occasion to remark any thing of the kind. *Intermittent Fever* has also been supposed to exert a suspensive or protracting power over Phthisis. I doubt this—nay, I have seen our ordinary Mal'aria Fevers repeatedly develope Phthisis and excite it in subjects predisposed. It is well known that the condition of *Pregnancy* will almost invariably suspend—even in its advanced stages—the further progress of Phthisis, and that the feeblest patient will almost certainly live until she is delivered. Lactation does not, however, continue the privilege, and such a patient will sink sooner if permitted to nurse her child.

Treatment. Little remains to be added to what was said under the last head on this subject. A Tubercle is an inorganic substance, and so far as can be positively stated, is not injurious, otherwise than as a mechanical irritant—whose presence produces Chronic Pneumonia with abscess, and sometimes excites perhaps, an attack of Acute Pleuro Pneumonia. As we are not able to remove the cause—our principal indication is to palliate the effects; and this is best done as has been already shewn—By Bloodletting—Antimonials—Digitalis—Opiates, &c. From the analogy of its usefulness in other forms of Scrofula with Tuberculous deposite, Iodine is the subject still, of hopeful experiment. I have been pleased with the apparent benefit derived in two or three well marked cases from the Deut-Iodide of Mercury and Potassium.

In no disease can the general subject of Prophylaxis be of greater consequence. Children of Scrofulous or Consumptive parents or who have suffered much from Epistaxis—or who exhibit notable malformation of the Thorax, should have selected for their future occupations through life such employments or situations as shall admit of, or require the full developement of muscular power by Active Exercise in the fresh air. Phthisis can neither be prevented nor cured, nor even long protracted, otherwise than by exercise constantly and habitually taken under the open sky.

ASTHMA.

Defined to be—a species of Dyspnœa, paroxysmal, spontaneously remitting and recurrent. Divided by writers generally into two forms—the Dry, Nervous or Spasmodic—and Humid or Humoral Asthma—the distinction referring to the presence or absence of mucous râle and expectoration.

A paroxysm of Asthma usually comes on at night—is often preceded by flatulence, a loose griping stool, heartburn and other symptoms of Indigestion. The patient awakes from his first sleep, with a sense of uneasiness and constriction of the Chest, difficulty of breathing, and cough. He is forced to sit up, nor can he bear the weight or pressure of any clothing or fastenings about his neck or body. Respiration is effected with wheezing and panting and great muscular effort. At first, the cough is dry—but after a time, a frothy mucus is brought up, occasionally tinged with blood, —this is attended with relief. In the worst cases, there is neither cough nor expectoration. These symptoms, depending on the affection of the respiratory organs, are uniform; those which arise from the sympathic disturbance of the general functions, vary with the condition of the patient. In the robust and plethoric, and in recent cases, the pulse is full, hard and frequent—the countenance flushed and turgid—the eyes suffused and prominent, with much tension and pain of the chest. On the other hand, when the disease has become habitual, and the patient is feeble, the face is pale or livid, the surface cold and moist, and the pulse small and weak, and the tokens of gastric derangement more marked and prominent. The duration of a paroxysm is uncertain; it remits usually at the approach of morning, the Dyspnœa continuing, however, in some degree through the day, with more or less cough, and the exacerbation again recurring at night; these changes go on for a few days before the entire subsidence of the attack;—it has been endured for weeks.

The general Prognosis is favourable as regards the danger of a fatal issue—few die; it is unfavourable as regards the hope of a cure—few recover. Besides the impairment of the constitution universally, which must follow the repetition of paroxysms of Asthma, it sometimes developes Hydrothorax, Chronic Bronchitis, and Phthisis Pulmonalis.

Autopsy. Asthma is found accidentally connected with a great many lesions of the viscera of the Thorax—but is clearly proved to be essentially independent of any of them. The most frequent organic change in the asthmatic, is Emphysema of the Lung—the cells being found distended, two or more of them dilated into one cavity, and incapable of collapse. Even this, however, is far from being constant; and numerous cases are recorded, in which there was no notable deviation from the natural state of the Lung.

The *Pathology* of Asthma is difficult and obscure. The difficulty of breathing is two-fold, and urges both during expiration and inspiration. It is hence plausibly suggested, either that the muscular fibres of the bronchi

are every where rigid, refusing both to contract and to dilate; or, that in some portions of the air tubes, these fibres are spasmodically contracted, resisting both the entrance and exit of air.

Causes. A predisposition is obviously derived from vicious conformation of the Thorax, or of some of the organs contained in it, either accidental or hereditary. A first attack generates a strong tendency to recurrence. Paroxysms are excited by exposures to change of temperature, or to cold and moisture—to the bad air of crowded apartments—to certain of the gases and to some odours. They come on after full meals, late suppers especially—violent muscular exertion—loud singing and speaking, and supervene on repelled eruptions. It seldom appears early in life—I have, however, seen a well-marked case in childhood.

Treatment. During the Paroxysm, it may be necessary to employ the Lancet if the pulse be full and hard, and the patient robust. It is especially called for in the early stages of cases which present marks of thoracic engorgement or inflammation. Cupping the Chest is also a useful measure, under these circumstances. But we must be cautious not to detract blood in the opposite conditions—when the patient is feeble, and the Asthma habitual. *Emetics* are highly beneficial in many cases,—given at the beginning of the attack, they often cut it short; and if this fail, may be repeated after a time;—they are among our best expectorants—and are indispensably necessary, when the patient has indulged in a full meal just before going to bed. It is well, too, to have the Bowels opened by a purgative Enema. Many of the Narcotics enjoy great repute for the relief of Asthmatic Dyspnœa. Tobacco—Stramonium—Lobelia Inflata—the Spider's Web—Coffee and Opium have their eulogists. I prefer the last mentioned, and in combination with Camphor, Ether or Ipecac, have seen it of immediate and striking advantage. Inhalations of various Gases have been tried, but with no very obvious good results. Galvanism deserves more general employment and confidence. My experiments with it have been successful and gratifying.

In the prophylactic management of the asthmatic, we must depend more upon regimen than Medicine. If any disorder of the digestive system, or any chronic pulmonary disease exist, we must endeavour to remove it. We must aim to restore the patient to full and perfect vigour of constitution by air and exercise. We must attend to the place of his abode, for there are particular localities in which asthmatics suffer much, though in regard to the situation best fitted for each, no general rule can be laid down. The matter must, therefore, be decided by experiment.

Strong Coffee

PERTUSSIS.

Tussis Convulsivus—*Bex Convulsiva, Kink-Cough, Chin-Cough, Hooping Cough*—these are all significant appellations for the well-known disease now to be spoken of. It is one of the specific Contagions—often becomes Epidemic—does not attack usually more than once the same individual, although this rule is liable to many exceptions. Hence, it is most frequently met with in young children. It invades for the most part as a common cold or mild Catarrhal fever. After a certain duration the paroxysms of coughing become more and more violent, and protracted, and convulsive. Rapid and repeated expirations are made with vehemence and then a sonorous inspiration, whence the common name Hooping Cough. These paroxysms terminate with large expectoration or vomiting. The intervals between them, are shorter or longer and more or less perfect and free from uneasiness in proportion to the violence of the attack. There is generally a considerable secretion of mucus in the air passages with a loud râle. Pulmonary inflammation sometimes arises with fever and great Dyspnœa. In other cases there is notable and prominent disorder of the Digestive system, with Diarrhœa, &c. Not unfrequently too, there is much determination to the head with Convulsions.

The *Causes* which occasion or render more violent a paroxysm, are a full or indigestible meal—any forcible muscular exertion—mental emotion—exposure to cold and moisture, &c. The average duration of Hooping-cough may be calculated at from 6 to 8 weeks; it may be prolonged indefinitely by a renewal of Catarrhal affections, with which it readily associates itself. It is said also to assume sometimes a periodical character which gives it a tedious protraction.

Prognosis generally favorable. The greatest proportion of deaths happens among very young infants, who may die suffocated by engorgement of the air cells and tubes with mucus that they are unable to expectorate, and children who are teething—a complication which often gives rise to convulsions. The supervention of any of the more ordinary forms of Pulmonic Inflammation, is attended with danger;—the Diarrhœa, which is sometimes present, may become unmanageable and fatal.

Autopsy. The traces found in post mortem examinations of this disease, are not regular or uniform. It sometimes happens, that no lesions or morbid changes can be pointed out. Most generally, however, the Bronchial Mucous Membrane is irregularly reddened and injected in patches; while, at the same time, there are marks of determination to the head and engorgement of the brain.

The *Pathology* of Hooping Cough is not clearly made out. Many deny the existence of inflammation as an essential condition; the majority, however, believe it to be an inflammatory affection of the Bronchial Membrane. Some very respectable authorities refer all the phenomena to cerebral and nervous disorder. Others still regard both cerebral and pulmonary inflammation as necessarily present, and in some manner connec-

ted. Desruelles calls it a "Broncho-Cephalite." It cannot be a simple Bronchitis, as we infer from the spasmodic or convulsive character of the cough which attends, and the peculiar manner of coughing.

Treatment. It is made a question, whether we have the power to cure an attack of this singular malady; and while some denying this power, use their efforts merely to palliate the symptoms, others are engaged in the search after specific remedies, of which a large number is already accumulated. I would advise, as the great majority of cases are, in the first instance, attended with pulmonary disorder and inflammation, that they be treated as Catarrhal Fever or Acute Bronchitis, by general and local Bloodletting, if severe; by Emetics, Purgatives and Expectorants. The Sulph. Zinc. has been supposed to deserve a special preference among Emetics—and of the Expectorants, Squill and Ipecac. The Narcotics and Antispasmodics are much used when the first stage has passed. I am much in the habit of combining with the Camphorated Tinct. Opii, the Tinct. Mosch Fact., which I mix in a solution of the Carb. Potassæ. The Warm Bath should be employed at night, and counter irritation by Mustard Poultices frequently resorted to. Assafœtida is much extolled among the Antispasmodics. Prussic Acid is supposed by some to be almost antidotal; and in the same way the Acet. Plumbi. Nit. Argenti and Cochineal, are prescribed, without any definite idea of the modus operandi. Of the Tonics, Cinchona and Arsenic are justly preferred, and are well adapted to the relief of protracted attacks.

Misplaced

EXAMINATION OR EXPLORATION OF THE THORAX.

The knowledge of the Phenomena from which we deduce the condition of the Thoracic Viscera, is highly important to the Practitioner. These physical signs are various in their character, and are to be ascertained by the modes of investigation of which I proceed to speak.

I. Inspection of the outline and the surface of the Chest. One side may be flattened—may be enlarged—the intercostal spaces may be protruded—it may remain still and passive, unaffected by the motions of respiration. The subject may be more or less malformed—chicken breasted, &c.

II. Investigation of the capacity of the Thorax. This may be ascertained in several ways. A. By Mensuration. One side may be contracted or unequal to the other in circumference. B. By expiration into a gasholder or bellglass turned upside down over water. This is a good comparative test of the capacity of the Lungs at different periods during a chronic pulmonary disease. C. By counting seconds during inspiration or expiration or retention of breath.

III. Hyppocratic succussion—or brisk agitation of the trunk by the shoulders—for the purpose of detecting fluctuation in the Chest.

IV. Percussion—performed by striking the Chest with the finger, or the points of them, or four together smartly. A notable reverberation or hollow sound is returned, on striking a thorax which is healthy and full of air. If the reverberation does not occur, or if the resonance is impaired in any part of the Chest, we infer the presence of some impediment to the entrance of air into the portion of Lung immediately beneath—either by effusion of fluid, or by the solidification of the Lung itself. Percussion is sometimes performed mediately, a "pleximeter" being interposed between the finger and the chest. A flat piece of Ivory is used for the purpose—a bit of leather—of caoutchone—or a finger of the other hand. The latter I prefer, and usually employ.

V. The hand laid upon the several portions of the Thorax, gives very distinctly the perception of vibrations occasioned in breathing, speaking, coughing, &c.—and any impairment or increase of the natural and healthy degree of vibration is readily recognized. Thus, also, we examine the impulse of the heart, and determine upon its enlargement or hypertrophy, and its situation or displacement.

VI. Auscultation. This is immediate, as when we lay the ear to the several regions of the Thorax, and listen to the sounds within. It is mediate when we employ the Stethoscope. This instrument shewn and described in its several varieties of form and composition. I prefer a tube made of wood not dense or heavy and in one piece. I dislike its division into more than one piece to be screwed or jointed together. If the bore is sufficiently large, I do not think it of great consequence, whether it be of paper, ivory or caoutchone, but prefer wood.

Respiratory sounds described. 1. Healthy sound or respiratory murmur. A. Vesicular. B. Bronchial. C. Tracheal. D. Puerile respiration. 2. Morbid sounds. A. Crepitous râle. B. Mucous râle. C. Metallic tinkling. D. Gurgling or bubbling. E. Cooing or purring. F. Sibilant or whistling sound.

Vocal sounds described. 1. Healthy sound. A. Bronchophony. B. Diffused thrill or vibrating murmur. 2. Diseased sounds. A. Ægophony. B. Pectoriloquy.

Sounds occasioned by the motions of the *Heart*, described. 1. Healthy. A. Auricular. B. Ventricular. 2. Morbid. A. Bellows sound (bruit de soufflet.) B. Saw sound (bruit de scie.) C. Rasp sound (bruit de râpe.) A solid stethoscope is said to convey to the ear, most distinctly, these sounds produced by the action of the heart.

VII. Insertion of flat Trocar—a means of exploration proposed by Marshall Hall, to be used in doubtful cases to ascertain the presence of air, serum, or pus in the sac of the Pleura. Not to be lightly employed, if ever—and suited only to cases in which Paracentesis is contemplated and proper to be resorted to.

DISEASES OF THE SENSORIAL SYSTEM.

The functions of this important system are performed by the *Brain*; the *Spinal Cord*; and the *Nerves*—the diseases of which organs must be considered in succession.

PHRENITIS.

Inflammation of the Brain and its investing membranes, is divided into Acute and Chronic. The latter is plausibly alledged to be the proximate cause of most of the diversified forms of Mental Alienation or Insanity—which varies in its history and symptoms in relation to the varying seat and nature of the Cerebral Affection. Of Chronic Phrenitis, I do not now propose to treat.

Acute Phrenitis is not often met with as occurring Idiopathically or independently, but many of its phenomena arise sympathetically, in the course of other diseases; and in the class of Fevers, this is so generally the fact, that Clutterbuck and others, have maintained Cerebral inflammation to be the primary location and essential condition of Fever properly so called.

Acute Inflammation of any portion of the Brain and its Membranes, commences with pain in the head, with a sense of fullness, heat, and throbbing; the eyes are red and suffused, and intolerant of light; the face is flushed and turgid; there is a pain in the back of the neck and down the spine—the stomach is in some cases oppressed, with retching and vomiting; the pulse is full, hard and bounding; there is great anxiety and mental dejection, or even from the first wild delirium, which at at any rate, seldom fails to supervene early in the progress of the attack; the hearing is acute, and ordinary sounds occasion distress; there is Perviligium, sometimes tenderness of the scalp—the tongue is whitish and lightly furred, the skin hot and dry. If the disease advance unchecked, the patient sinks into a soporose state, the eyes grow less and less sensible to light; there is perhaps strabismus or a fixed state of the pupil, at first contracted closely and afterwards widely dilated—the hearing is impaired, there is sighing, grinding of the teeth; tremulous debility; Respiration and Deglutition become difficult, and coma or convulsions precede death.

The *Predisposition* is said to be sometimes hereditarily transmitted. It is found to exist in men of irritable and violent temper and morbid susceptibility to mental emotion; in persons of sanguinous temperament; those accustomed to free and luxurious living, and in profound students and literary men of excitable character.

The *Exciting Causes* are insolation, blows on the head, gusts of vehement or prolonged passion and intemperance.

Autopsy. The appearances after death vary with the duration of the case. The vessels of the Brain and its Membranes are turgid—lymph is

found adhering to the surfaces of the latter and connecting them by adhesions—serum is often effused over the surfaces and in the ventricles and Pus not unfrequently found mingled with it in considerable quantity. Gangrene is affirmed to have occurred.

Prognosis—Generally unfavourable. We draw the most gloomy inferences from the supervention of great debility, while the local excitement is unabated—and from the tokens of effusion and mechanical pressure—as Paralysis, Strabismus, Deafness, Stupor, Coma, Convulsions.

Treatment. Bloodletting is universally acknowledged to be indispensable. Some open the temporal artery—some the jugular vein. That vessel is to be selected from which we can obtain the fullest and freest flow of blood. The head should be elevated, and persevering affusions of cold water thrown on it from some height. The scalp should be shaved—cups or leeches may be applied to the scull and behind the ears, but our best reliance is on the lancet and cold affusion, which I prefer to pounded ice, &c. The most active purgative doses should be given—a combination of the Resinous and Saline, I think should be preferred, and used freely and as long as the strength will bear. In the meantime the chamber should be kept cool and dark, and absolute silence enjoined. The head of the patient should be elevated and abundant cold drinks allowed him. He must be perfectly controled, and by such means as admit of no struggle or resistance.

The convalescence must be for some time guarded most carefully. The diet should be low—the mind kept free from care and anxiety, laxatives administered occasionally, and a total abandonment of such habits as may have predisposed to or excited the attack, strictly enjoined.

MANIA A POTU.

Delirium Tremens—Brain Fever of Drunkards—La Folie des Ivrognes, &c. &c. Among the numerous appellations of this remarkable malady, I prefer to retain the first of those above set down, as strikingly significant of the cause to which it is attributable. Until we have clearly designated its true Pathology, we shall not be able to give it a title absolutely correct and entirely unobjectionable. It is not properly a Fever. The line between Delirium and Mania is not distinctly drawn—and there can be no special impropriety in using the latter phrase, where there is so much mental derangement, with constant hallucination. Besides this, it runs so readily into Phrenitis, acute and chronic, as to give good ground for this selection. Indeed, although I confess its *Pathology* to be extremely obscure and ill-defined, yet I am rather disposed to regard it as a peculiar form of Phrenitis, modified 1st. By the cause which produces it; and 2d. By the morbid condition of other organs, with which it is universally connected.

The *Cause* to which it is exclusively ascribed, is Intemperance in the use of Ardent Spirits—distilled Alcoholic Liquors. The influence of these agents is *slowly* developed in the production of Mania a Potu, which requires time, and which ultimately shews itself in various forms, according to the several diseases of other organs which may exist in each case. Some have maintained the necessity of a transient discontinuance of the use of Ardent Spirit, and a consequent exhaustion or prostration of nervous energy from the substraction of accustomed stimuli. The fact, however, is not so. I have repeatedly seen attacks of the several modifications of Mania a Potu, supervening during the actual progress of a frolic, or while the sot was living in his usual manner.

Symptoms. In a majority of instances, the Stomach has yielded long previously to the morbid effects of stimulating potation, and the Liver and all the other chylopoietic viscera have suffered. There is total loss of appetite, with occasional retching and vomiting especially in the mornings; the bowels are irregular, usually loose with acrid bilious discharges; the hand and tongue are tremulous, the latter thickly furred, with fetid breath, or smooth and fiery red. The mind is deeply depressed, and the state of intoxication into which the patient plunges for relief from this dejection, is often more gloomy and remorseful. At last the patient wanders—he mutters incoherently and with incessant restlessness; or if he sinks exhausted into a brief and unquiet slumber, starts from it in terror which cannot be soothed. The pulse is weak and very frequent, his skin cool and clammy, his eye red and suffused. Convulsions may occur, but are not usually met with when the stomach is still disturbed with the frequent retching, so prominent a symptom of this form of the malady.

In some patients, the brain suffers more immediately, and with much less gastric disturbance previously, or at the time. Some fit of intoxication deeper and more prolonged than ordinary, terminates in a horrid con-

vulsion, followed by another and another. The unhappy subject may thus die at once, or he sinks from convulsion into a state of exhaustion, with cold skin, pulse indescribably rapid, and so feeble as scarcely to be felt, with countenance haggard and eyes half shut. After lying thus for some time, his muscular strength suddenly returns, and he becomes capable of prodigious exertions; he is haunted by some frightful hallucination, and becomes extremely dangerous to those about him, whom, in his frenzied anxiety to escape, he will assault and pursue with vehement malignity. This condition often runs into acute Phrenitis, and sometimes terminates in permanent insanity.

Others again, with less obvious affection of the digestive system, and no acute cerebral disorder, sink into absolute imbecility, both mental and physical, mingled with a peculiar shade of gloom and despondency. The skin, is such cases, is hot and dry—the pulse is small, corded and frequent; —the patient takes almost no food, and scarcely sleeps—seems always restless and uneasy; he affects solitude, often mutters to himself, and appears *alarmed causelessly.* In almost all these there is a notable predisposition to suicide.

The *Autopsy* of Mania a Potu, developes nothing uniform or characteristic. A variety of lesions have been noted, but are not regular. The "Anatomy of Drunkenness" shews marks of extensive disease of the Stomach, the Liver, and the Brain;—the progress of the several changes or steps of disorganization, is proportioned to the duration of sottish habits. But all these changes may have taken place, without the production of this particular form of disease.

The *Prognosis* is generally favourable. Few die in Mania a Potu, and those few rather of the derangements of the constitution, which are the coincident effects of the cause which has produced the attack. The tokens of a specially unfavourable case are—obstinate pervigilium, which always threatens convulsions—a repetition of the convulsions, with brief interval—or the occurrence of Coma. It is also unfavourable to find the pulse rising and becoming fuller and slower, while the mind continues perturbed. We have here to dread permanent insanity.

The *Treatment* must be modified to suit the condition of the patient. *Venæsection* is seldom necessary or justifiable. It may be required to obtain a respite from Convulsions. When a transitus has taken place to the symptoms of Acute Phrenitis, the Lancet must be freely employed—this is marked by fullness and hardness and comparative slowness of pulse—by the cessation of trembling of the limbs and tongue, and by a change in the manner of the patient, which is now fierce and resolute, and no longer full of tremor and vacillation. If there be no doubt on this point, the hair may be cut close and Leeches and Cups applied to the temples and back of the neck. But such cases, it should be kept in mind, are not common, and this mode of depletion is not to be often resorted to. *Cold affusion* may be of advantage when the face is flushed and the skin hot and dry—under opposite circumstances I would not advise it. *Emetics* have been highly eulogized, bnt they are of doubtful effect. When the stomach is nauseated with retching and ineffectual vomiting, with foul tongue and fetid breath, they may do service. They may also be occasionally employed to arouse the susceptibility to the action of other remedies, when we have found ordinary doses incapable of affecting the patient. *Cathartics* are often

beneficial. Calomel, in large doses, is the best. The Saline may be added, if the patient be strong and robust. In general, however, it is not advisable to employ Cathartics freely. *Opium* is, unquestionably, our most important remedy. It is applicable to all cases of Mania a Potu—and has only been subjected to doubt, by having been erroneously prescribed, when the case has run into Phrenitis of ordinary character. I prefer the *Tincture*, and prescribe it with unyielding perseverance in large doses until the patient sleeps. I do not like to combine with it any other stimulant. Camphor and Ether are the least objectionable, if an addition be necessary. Nor can I assent to the propriety of exhibiting large masses of solid Opium, which may not dissolve at all when most needed, and may lie inactive in the stomach, until a period when its solution and consequent absorption and active influence may be productive or injury rather than benefit.

The management of the patient is a matter of much importance. He should be kept under the most perfect controul by a sufficient number of resolute attendants—or, which is often better—by solitary confinement. His diet, if he will take any, may be nourishing and well seasoned. His convalescence must be carefully guarded. His mind must not be disturbed with care or business. Tonics may be of use to him—but all stimulants (except those already mentioned) must be positively refused.

The Prophylaxis of Mania a Potu—the reformation of the drunkard is a topic of infinite interest. The peculiar craving or longing after ardent spirit is, in the sot, the consequence of a morbid condition of the stomach chiefly. To remedy this, it is proposed to combine the Sulphuric Acid with the accustomed drink—and the effect is said, in some cases at least, to be strikingly advantageous. By others, it is suggested to combine with the several forms of distilled liquors, the Tart: Antimon. or Ipecac. or other emetic, in such amount as to nauseate long and vomit severely. These attempts may sometimes succeed; but, in general, they either totally fail or produce only a transient influence. Nothing is to be hoped from any measure short of perfect abstinence; nor is any thing to be feared from the abrupt enforcement of the injunction. I would scarcely allow, in any case, the use of a substituted stimulant; but if such an indulgence seemed necessary in a given instance, Opium and Camphor would suffice abundantly, and the dose being rapidly diminished, might soon be safely withheld.

APOPLEXY.

Apoplexy may be defined to consist in a loss or remarkable impairment of the power of motion, with insensibility and stupor. The patient cannot be roused and gives little or no token of consciousness. The action of the heart is usually little disturbed at first, but soon becomes feeble, and after a time ceases. Respiration is performed with some labour and effort, and with stertor generally—the difficulty increasing as the circulation is more impeded.

Causes. A predisposition to Apoplexy is found in a full plethoric condition of body—habits of undue indulgence in the pleasures of the table and venereal gratification—in mental excitability, liability to gusts of anger and other violent emotions. Yet it is not only the luxurious who are thus predisposed, similar tendencies are often found in the ill-fed, badly nourished poor. As age advances, the predisposition seems to increase. It is commonly believed to be connected too with a particular form, of which "rotundity, corpulence, with thickness and shortness of the neck," is the description.

The *Exciting Causes* which affect the predisposed are numerous: all stimulants, a full meal, especially if the subject place himself soon after in the recumbent posture; insolation, vehement muscular exertions, ligatures round the neck, fits of passion, stooping down for any length of time—all circumstances in short, which either render active the cerebral circulation, determining to the brain, as the phrase is, or which impede the return of blood from the head. Apoplexy is said to be often connected with Hypertrophy of the heart, and to follow the sudden disappearance of regular Gout and the suppression of accustomed evacuations.

Diagnosis. Apoplexy resembles profound sleep, but the sleeper may be aroused; it is distinguished from Syncope in doubtful cases, by the respiration, which is almost always noisy and laborious—generally by the pulse also, which is full and slow, and the countenance, which is in the majority of instances, flushed—from Epilepsy by the absence of distortion or convulsions—from Asphyxia by the previous history of the case, and in the same manner from the torpor of extreme cold, which closely resembles it. It is very difficult to distinguish it from intoxication, and it is often most perfectly simulated by the Hysteric Paroxysm. There is also a sympathetic loss of sense and motion from Gastric disorder, not easily separated from it.

The *Prognosis* is generally unfavorable—perfect recovery from it is not frequent; hemiplegia is a very common result of the attack; a strong tendency to recurrence of the paroxysm remains. The best hope of restoration is in the young and temperate, subjects marked by no special bad habit, or other token of predisposition, and attacked under circumstances of transient influence, as from Insolation. In the old, and infirm, and intemperate, the prospect is gloomy.

When one side is in any degree agitated, and the other remains motionless, we predict Paralysis of the latter. If the pulse sink, the respiration

become louder, with puffing of the cheeks, and relaxation of the sphincters occur, we expect a promptly fatal termination.

Autopsy. The appearances vary somewhat, but in a vast majority of cases betoken impediment to the performance of the functions of the brain or actual lesion of cerebral structure. 1. Hemorrhage is of frequent occurrence. Blood may be poured out upon the surface of the membranes, or within the ventricles, or in the very substance of the brain with laceration. 2. Serum or Seropurulent fluid may be found in the ventricles or upon the membranes. 3. Turgescence of the Cerebral vessels is rarely wanting in greater or less degree. Exceptions are however recorded on good authority in which none of the above marks of disease within the head were discovered.

Pathology. Apoplexy is properly the abolition or suspension of the sensorial functions, occasioned by pressure on the brain. Mechanical pressure, as by fracture and depression of the skull, gives rise to a train of symptoms precisely the same. This pressure may be 1. Extravascular, i.e. from fluids poured out, blood, serum, &c.—or it may be 2. Intra-vascular, from mere fulness or turgid state of the cerebral vessels—which latter condition may disappear at the time of death, leaving no trace.

Treatment. This must vary with the condition and circumstances of the patient, which in different cases will be strongly contrasted. Apoplexy has in relation to these diversities, been divided into two forms, Sanguineous and Serous—Meningeal and Cerebral—Entonic and Atonic—phrases significant, and applied with some foundation in propriety. These modifications are explained by the constitutional peculiarities of the subject, by the nature of the cause which has affected him, by the degree of lesion of the brain and the particular locality of the lesion.

1. A majority of the cases present the following symptoms. The pulse is full and strong, though slower than natural, the face is flushed or turgid, the eyes prominent, the pupils somewhat dilated, though not altogether insensible to the influence of light, the respiration stertorous—the surface is of natural temperature—the features flabby and the jaw somewhat fallen. There have been, for the most part, certain premonitory indications before the fit, such as flashing of light before the eyes, tinnitus and other noises within the ears, fullness or throbbing, or pain in the head or vertigo, with somnolency; and sometimes a failure of strength of the arm and leg of one side, or a sense of numbness in them or in the tongue—for Paralysis may precede as well as follow Apoplexy.

In this state of things, the *Lancet* must be promptly used and fearlessly—and blood drawn from a large vein or veins, to an amount sufficient to make a definite impression upon the force of the circulation. *Cold Affusion* on the head is useful—the hair being cut close or shaved. *Active Cathartics* and Enemata must be employed for their revulsive effect—the Drastics will be chosen on account of the impaired susceptibility. *Counter Irritation* by Sinapisms to the extremities and Epispastics, will be of service. *Emetics* are equivocal remedies, and should not be administered, unless when the patient has been attacked immediately after a full meal. The best means of promoting the certain recovery of the patient, and of confirming a cure thus begun, is to keep up a regular and free determination to the bowels, by the use of efficient purgatives in repeated doses.

2. The patient is sometimes pale or livid, with a cold moist skin, and a pulse feeble and intermittent. Here the *Lancet* is forbidden. Cold water must be applied over the head, by affusion or with a sponge, and cups to the back of the neck and between the shoulders, or leeches behind the ears or around the arms. Volatiles may be held occasionally to the nostrils, and mustard laid upon the extremities and epigastrium. Stimulating Enemata may be given without delay, and Epispastics laid upon the spine and other parts of the surface. If the pulse rise under this treatment, we may bleed and administer purgatives.

PARALYSIS.

Under this head, I shall notice several diseases usually recognized as distinct. 1. *Hemiplegia*, or Palsy of one side of the body, closely connected with our last subject, as being an affection of the Brain primarily, and always the result of pressure on some part of that organ. 2. *Paraplegia*—Palsy of the lower half of the body, transversely divided; the result in a vast majority of cases, of lesion in the Spinal cord, though it has occurred independently of it. 3. *Paralysis Agitans*—and 4. *Paralysis Vacillans* or *Chorea Sancti Viti.* Apoplexy in its worst grade, may be considered a complete and total Paralysis, but there are degrees even in Apoplectic seizure, and the various divisions above stated, are obviously, forms of *partial Paralysis.* We may have Palsy of a single limb—nay, of a single muscle, or of a few muscles. In Colica Pictonum, there is Palsy of one or both hands. The arm has been palsied, while the hand, if supported, was capable of writing. A Palsy of one side of the face is not very rare. The tongue is sometimes palsied. In what I have called P. Agitans, there may be a constant trembling of the hand, or more frequently, an incessant shaking of the head. This is common with the aged, but I have met with it also, in the young and robust. In Apoplexy and Hemiplegia, the Brain is evidently the seat of injury. The mind is disturbed more or less, and both sensation and motion are impaired. In the three latter forms of Paralysis, the mind usually remains unaffected and the sensibility of the parts is not changed, the nerves of motion having suffered exclusively. This may either result from some cause acting upon the nervous ramifications which supply the parts, or may depend upon lesion of the portion of spinal or cerebral substance from which these spring. Paraplegia, which in a great majority of instances, arises from obvious injury or disease of the Spine, has been ascribed in a few, to cerebral derangement, and has occurred as a sympathetic effect of Gastric and Intestinal disorder, without any perceptible change in the condition, either of the brain or spinal cord. In Chorea Sancti Viti—Paralysis Vacillans—styled by some of the English, P. Agitans, incorrectly—the tremor or agitation is not constant, but exhibits itself only at the moment when an effort is made at voluntary motion. The volition fails in part, and the muscles called upon, act with vacillation and irregularity, but not at all feebly. There can be little doubt, I think, that the Cerebellum—the organ of association of action, is here affected as well as the nerves, and when the case is severe and protracted, the whole brain may become disordered, the patient becomes fatuous, and there is tendency to convulsions.

1. Hemiplegia is nearly allied to Apoplexy which it may either precede or follow. As the consequence of the Apoplectic seizure, it has already been spoken of. Its approach may often be observed and foretold. I have more than once, marked in the Apoplectic, the exact moment of its occurrence, denoted by a slight quivering of the muscles of the face, trunk and limbs, which in an instant relax and subside into a passive condition.

It often invades gradually. The patient first complains of a numbness and tingling of one arm and leg—is apt to trip or stumble, and to let fall what he attempts to hold; there is noise is the ears, and the eye of one side cannot be closely shut; there is some distortion of the mouth, and articulation is impeded. The mind is usually somewhat disturbed; the memory generally fails, though not invariably, and some terror attends the feeling of so great a calamity. When fully developed, Hemiplegia implies an incapacity to stand or walk, or close or raise the hand; but the power of sensation and voluntary motion in the side affected, though greatly impaired, is seldom, if ever, totally lost, and in numerous cases, the sensibility has remained, or been morbidly enhanced, while motion was impossible, and vice versa; in one remarkable instance, there was loss of power on one side while the feeling of that side continued, and loss of sensibility on the other, the voluntary movements of which were impaired. These facts are easily explained, since the discovery made by Sir C. Bell, of the independent origin of the two sets of nerves.

Sometimes the case runs rapidly on into Apoplexy, occupying from a few hours to a few days—the prostration of muscular power increasing, and the mind becoming more and more disturbed, until insensibility and coma supervene.

Many patients however, drag out a miserable, protracted existence of months and years, of unabating suffering. The nutritive actions of the vessels of the affected limbs, are impaired—they shrink and are emaciated, their natural heat being lessened—harshness and dryness of the surface ensues, the ordinary transpiration ceasing—the fingers are pale and waxen, and sometimes contracted; the countenance is distorted by the traction of the mouth to the sound side, the saliva escapes over the chin, the tongue is thick, and when protruded turns to the paralytic side, and the speech is confused and imperfect. There is sometimes severe pain, and sometimes spasmodic muscular contractions on the affected side. *Amnesia* is usually present in various degrees. The memory of words is oftener lost than the remembrance of things or facts. The names of familiar objects are sought for in vain, or incorrect names obstinately applied—and words pronounced by the tongue, which the will had not contemplated. The emaciation and debility increase, until the patient sinks, worn out and exhausted by a long train of evils—in which every function has successively suffered.

In a few cases, a gradual improvement takes place, and a restoration of some of the capacities for action and enjoyment, but such recoveries are rare. They are attended with formication and tingling of the limb and sometimes painful swelling, while the power of motion increases slowly and the mind gains strength.

The *Causes* of Hemiplegia are those of Apoplexy already enumerated—Plethora and the reverse condition arising from imperfect supply of food in the poor—Insolation and Intemperance.

The *Prognosis* is unfavourable. It is proved that absorption of extravasated blood, which by its presence in the Brain has produced Hemiplegia, may take place—but the process is slow and uncertain, and the constitution in the meanwhile sinks under the general impairment of function. Laceration and disorganization of the Cerebral tissue hardly admit of restoration.

Autopsy. The most common circumstance noted in the examination of

Hemiplegics is the presence of a clot of blood in some part of the brain. It is usually, perhaps always, enveloped in a cyst, and has undergone more or less change from absorption. The process is slow; the clot has been found undminished in size, and filling the cyst two years after the attack. Sometimes the cyst is found empty, with its sides collapsed—at others, it contains serum. Tokens of inflammation of a portion of Brain are found—there is induration of substance—Ramollissement or softening, a change supposed by some to be analogous to Gangrene of other tissues.—Abscess or effusion of Pus—of Serum, and tumours connected with the membrane.

The *Pathology* of Hemiplegia is readily deducible from what has been stated above. It is the result of pressure upon some part of the Brain, and the degree and kind of effect are in relation to the locality and extent of the lesion which interrupts the sensorial function. The pressure on which it depends, may be, though rarely, intravascular.

The *Treatment* must be varied, as in Apoplexy, to suit the condition of the patient. If he be young and robust—the pulse full and strong—the face flushed, with pain and throbbing of the head, he must be *bled* largely, and cold water poured upon the head from a height. *Purgatives* of active and irritating character, must be promptly administered, and their effect hastened by the aid of Enemata.

In the opposite state of the system, when the countenance is pale, the pulse feeble, the skin cold and moist, Volatiles must be applied to the nostrils, Sinapisms and Epispastics to the limbs and trunk, and the head spunged with Vinegar and Water. Enemata may be given, and Leeches or Cups put to the temples and back of the neck. If reaction ensues, we should deplete, but with caution.

In the protracted state of Hemiplegia, the persevering employment of Purgatives has done service—and some of the Cathartic Mineral Springs are celebrated for cures effected. Determination to the head must be combated by keeping the head shaved, and occasionally applying a few Leeches behind the ears, or blistering the back of the neck or between the shoulders, or inserting an issue or a seton in the neighbourhood. Farther revulsion is attempted by frictions with Turpentine, Mustard, &c., which are supposed to excite locally the enfeebled muscles and nerves. With the same view, the skin of the limbs affected is irritated with Tartar Emetic—rubbed with rough tow and hard brushes—stung with nettles and burnt with moxa. Both the cold and hot baths are much eulogized. But the most useful means, in my hands, have been Galvanism and Electricity; and under the employment of these, I have seen some remarkable cures. The Tonics are much employed, especially the Metallic—the Nitrate of Silver—Bismuth—Zinc—Arsenic. Strychnine has been of late highly recommended, and is supposed to possess some specific and peculiar properties, which adapt it to the relief of the Hemiplegic.

2. *Paraplegia* is one of the most obstinate and hopeless of human maladies. The spine should be carefully examined, and at any point exhibiting fulness or tenderness on pressure, Leeches or Cups should be repeatedly applied. The use of Purgatives, and the employment of Electricity and Galvanism, furnish perhaps our most reasonable hope of improvement.

3. *Paralysis Agitans*—if in the old, is incurable. In the young, it is connected with various other derangements of health, and will require the

treatment to be accordingly modified. In females, it seems dependent upon habitual constipation, and sometimes upon irregularity of the Catamenia. Under both circumstances, I have succeeded in removing it by employing a combination of some resinous purgative with the rust of Iron.

4. *Paralysis Vacillans*—Chorea Sancti Viti belongs generally to childhood and early life. It is produced sometimes by the irritation of Worms. I have seen it during convalescence from other maladies, as Scarlatina, Catarrhal Fever, &c. I knew it supervene upon the introduction of a Needle into a part of the body; and after a duration of some months, cease suddenly on the Needle finding its way out of a distant part. It often invades, however, without obvious cause. I have seldom failed to relieve it by the exhibition of Iron with an occasional purgative. Other Tonics are used, as Bark, Sulph. Quinine, and the Cold Bath. I have used Camphor and Opium in minute doses, with great advantage. In obstinate cases, I have seen the best effects follow from Galvanism and Electricity.

EPILEPSY.

This terrible disease is of paroxysmal or recurrent character—the patient usually enjoying good health in the interval, but liable to an occasional attack upon the application of exciting causes of great number and variety—and in bad cases spontaneously, or without the influence of any obvious cause. The paroxysm consists in a sudden loss of consciousness and sensibility, attended when fully developed, by convulsive agitation of the body and limbs. *Convulsion* described as an ~~ultimate~~ and rapid contraction and relaxation of the muscles of voluntary motion. There is much irregularity both as to the muscles affected, and the force and quickness of their contraction.

In a fit or paroxysm of Epilepsy as ordinarily occurring, the patient falls and is agitated with convulsions. The countenance is flushed or livid and horribly distorted, the head drawn forcibly backward, the eyes turned upward and inward, and the lids incessantly in motion. The mouth is rapidly opened and shut, with inarticulate sounds and moaning expressive of great suffering, the tongue is mangled by the gnashing of the teeth, and the lips are covered with foam. The limbs are tossed violently or drawn together, with the hands tightly closed—the trunk is twisted to and fro, and the resistance of the sphincters being overcome by the contraction of the abdominal muscles, the contents of the Bladder and Rectum are evacuated. After a time these convulsions subside, and the patient lies passive, languid and soporose—his intelligence gradually returns, or is at once recovered, after waking from this slumber, but there is no memory or consciousness of what has happened; great debility, and usually some headache, remain for a few hours.

Epileptics often receive a species of warning, which admonishes them of the approach of a fit. In some, this consists in the throbbing of the head, tinnitus, &c., which precede Apoplexy. In others, there is an indescribable affection of one or more of the organs of sense—either of smell, taste, or sight;—to perceive a particular odour is not uncommon; and a patient of my own was always aware of what she denoted "a green taste" just before an attack. Others still feel in some part of the body, a sensation usually spoken of, as "a cold creeping vapour," which originating these, moves upwards towards the head. This is known as "the Epileptic Aura;" but the accounts given of it by different patients, are dissimilar. Some speak of it as a titillation—others as severely painful—others as indifferent or but slightly uncomfortable.

The *Paroxysm* of Epilepsy is not always fully developed, as above described, the sensorial and muscular system being affected in various modes and degrees. There may be for a moment, or a very few moments, total unconsciousness—a mist, as it were, coming over the mind, while the muscles remain undisturbed. On the other hand, the intellect may be clear, while the aura is felt, and the muscles, if not agitated, refuse to obey the will. One class of muscles may be exclusively and strongly contracted,

which is spoken of as the tetanoid form of Epilepsy; or the whole muscular system may become at once rigid and fixed in the mode and degree or state of action existing at the precise moment of seizure—a state well known as Catalepsy, and of which I have met with two well marked instances. And all these varieties may, at different periods, exhibit themselves in the same individual case.

The *Autopsy* of Epileptics, discloses no uniform lesion or derangement. Many affections of the Encephalon and Spinal Cord, have been noted—but they are found in comparatively few subjects; and on the other hand, are often observed unconnected with Epilepsy. Among them may be mentioned, Ossific and other tumours attached to the inner table of the skull, and to the membranes of the brain, and purulent and other effusions, upon the surface of these membranes; and in the Vertebral Canal.

The *Pathology* of Epilepsy is extremely obscure and ill-understood. The nature of the intermittent disturbance of the sensorial system and function upon which it depends, is absolutely unknown.

The *Causes* of Epilepsy are varied and numerous. The predisposition is transmitted hereditarily; and in certain families, many of the members become its subjects. In persons thus predisposed, almost every derangement of any organ or function may become an efficient exciting cause. I would distinguish Epilepsy in reference to the first *notable* link in the chain of circumstances which give rise to it, into Idiopathic and Sympathic.

It is Idiopathic when it occurs without obvious derangement of any other function than the sensorial, and when we can reasonably refer it to some known agent, capable of directly impressing the sensorial system—as for example, mental emotion of many kinds, and the strong principle of imitation.

It is Sympathic—when on the other hand we trace the sensorial disorder to an indirect or secondary influence exerted upon the brain and nerves, through the diseased condition of some of the other organs or systems.

1. The Digestive. Dentition and Worms produce, by their irritation, many attacks of Epileptic Convulsion in young children. Intemperance is a frequent cause among adults; though it may be questioned whether, in this example, the primary impression be made upon the stomach or the brain. Hepatic disorder has been accused of bringing on Epilepsy.

2. The Genital. In women, Epilepsy is often connected with derangement of sexual health. Masturbation will give rise to it in both males and females. Venereal excesses have proved fatal by inducing Epilepsy.

3. Metastatic Epilepsies. Under this head, I would include such as precede and follow the Exanthemata—such as supervene upon the sudden disappearance of inflammations and the removal of tumours. I have more than once seen such convulsions follow the sudden disappearance of dropsical swellings.

4. Epilepsies connected with "the Aura." This strange sensation has sometimes an obvious cause in the condition of the part where it commences. The part is sometimes tender on pressure, and sometimes it invites pressure. Where no disease can be traced on examination, I am still disposed to believe there is a morbid local affection of the nerve distributed there.

The *Prognosis*—in the first species or Idiopathic Epilepsy is unfavourable except where it is clearly owing to some transient excitement of the

feelings or when it is founded on the instinct of imitation. In the Sympathic, we distinguish the several forms. Attacks occasioned by the irritation of worms or dentition, or even by intemperance, are, for the most part, readily curable, upon the removal of these transient causes. So also of those which I have termed Metastatic, which are not usually obstinate. But Epilepsies, arising from genital derangements, take promptly a tenacious character, and are difficult to expel; and in the modification specified under the 4th head, we have little room for hope, unless we can appreciate and remedy the disorder of the part primarily affected with *the Aura*, or can detect and remove with the knife, the diseased portion of the nerve—means of relief very rarely within our reach. In general, all the forms of Epilepsy are difficult of cure, in proportion to their duration. Spontaneous cures of Epilepsy occur now and then, but are not well understood. In almost all cases, it is in our power to render the paroxysms less frequent, and perhaps to diminish their violence. But few die in the paroxysm. It is affirmed to have brought on Hemiplegia and Apoplexy, and by repetition, to tend to reduce the patient into a state of idiocy and fatuity. Many Epileptics, however, live long and enjoy unabated vigour and clearness of intellect.

Treatment. During a fit, loosen all clothing about the neck and body—elevate the head, and sponge or wash it with cold water—place a soft bit of stick, or roll of cotton, between the teeth, to preserve the tongue from injury—and give the patient fresh air. The Lancet may be of use, but is not often required. I would bleed if the patient was young and robust, of apoplectic make, with face flushed and turgid—and labouring under some strong excitement of transient nature.

Owing to the extreme obscurity of the Pathology of Epilepsy, and our total ignorance of the conditions upon which it immediately depends, our efforts for its removal, it must be confessed, are rather tentative than directed by scientific or definite indications. The practice in the case may, therefore, be considered without impropriety, under the heads of the Palliative and Empirical.

The Palliative management of the Epileptic, is sometimes successful beyond our hopes; not only lessening the number of the attacks of Convulsion, and subduing its violence, but even in some happy instances arresting the disease altogether. The Diet should be strictly regulated; temperate though not abstemious, nourishing but not stimulating. The hair should be cut close, or even shaved off. If at any time the head throb or ache, or the face be flushed, V. S. should be resorted to, or Cups or Leeches applied. Vigorous and constant exercise should be enjoined—studious and sedentary habits abandoned. The administration of Cathartics is often beneficial; the most remarkable cure which I have ever seen, was effected by perseverance for years in the habitual employment of gentle purgatives. In Sympathic Epilepsies, besides this general palliative course, we must endeavour to eradicate or remove the primary affection wherever seated. A careful examination of the source of the *Aura* should be instituted, with the view to the counteraction of its influence, in whatever method might be practicable.

The Empirical Treatment of this justly dreaded malady, consists in the administration of certain remedies, whose modus operandi in the case is totally unknown; but whose reputation is the result of tradition and experi-

ence simply. I have not succeeded with any of these Anti-Epileptics, though some of them are in high repute, and have been favourably reported of by Physicians of name and authority. They are the Nitrate of Silver—the Salts of Zinc, of Copper, and of Arsenic, and the Mistletoe of the Oak. Successful experiments have been also made with Galvanism and Electricity. These powerful agents, especially the former, would seem capable of advantageous application here, and deserve repeated trial from the profession.

DISEASES OF THE MOTORY SYSTEM.

GOUT.

Podagra——Arthritis. We have to consider Gout like Scrofula, in a two fold point of view. It constitutes or depends upon a peculiar Diathesis, of which its several local developements, are the results or external manifestations. Regular attacks of Gout however, affect the joints exclusively, whence the propriety of the term Arthritis and the arrangement of it here.

The Gouty Diathesis or Constitution, may be transmitted hereditarily, determining a predisposition to its local manifestations so strong, that they cannot be escaped, the subject being attacked in childhood or early youth. In the generation of the Diathesis, full or luxurious living is the most influential agent; this is much aided by habits of indolence and refinement. Climate has probably an effect in inducing this state of the system, as in Great Britain, where Gout prevails as extensively among the upper classes of society, as Scrofula among the lower.

The nature of this predisposition is not at all understood. It is usually connected with a state of Plethora, and attended by a proverbial exemption from other forms of disease.

The *Exciting Causes* which tend to develope it and give rise to an Acthritic Paroxysm, are numerous and diversified. Intemperance—nay, a temperate use of stimulants, even a single glass of wine, will occasion it in the predisposed—so will any indigestible or stimulating food—fatigue, loss of sleep. Local injury of a joint, as a twist or strain of the ankle, is sometimes followed by a fit of Gout.

Gout is divided into Entonic and Atonic—into Regular, Misplaced, and Retrocedent. It is *Entonic*, when the local inflammation is attended with febrile excitement and increased force of vascular action. It is *Atonic* when the pulse and strength are below the usual standard—when instead of febrile excitement and local pain, we have general uneasiness and disturbance, with little inflammation of a joint or limb. *Regular* Gout attacks a joint and is there fixed, the constitutional disorder being proportioned to the local affection, and disappearing as it abates. *Retrocedent* Gout, consists in a Metastasis of such local affection from the joint first attacked to some one of the internal organs. *Misplaced* Gout occurs where, at or about the usual period of the recurrence of a Paroxysm, or under the influence of the causes which tend to produce it, an arthritic subject becomes affected with much internal disorder.

The *Pathology* of gout is confessedly obscure and uncertain. The prevailing opinion of the day, refers the symptoms in all their variety, to disorder of the Digestive system. In this view I do not concur. The nature of the Diathesis—especially when hereditarily derived, is utterly unknown. The local Inflammation is of peculiar character—and terminates only, in

resolution or deposition of earthy matter, never in effusion of pus, or serum or in gangrene.

The *Diagnosis* of Gout is easy in cases of long standing. A first fit may be mistaken for Rheumatism. It is distinguished by its intensity, and its exclusive invasion of the smaller joints—very generally the ball of the great toe.

The *Prognosis* in regular Entonic Gout is decidedly favorable. In Atonic irregular attacks it is the reverse; these are often suddenly fatal, whether the stomach, the heart or the brain be the part affected.

A *Paroxysm* of regular Gout begins with swelling of the ball of the great toe, which is extremely tender to the touch, with great tension and redness of the skin, the veins being full and the arteries throbbing. The pain which is insupportably severe, extends upwards towards the ankle and calf of the leg, and is much increased on letting the foot hang. Motion is impossible. There is fever, with headache and uneasiness of stomach—the pain is described as very distinct and peculiar, and attended with a sense of numbness and paralysis of the part. The inflammation occasionally changes from one foot to the other, or extends to the knee. After a duration of a few days, these symptoms subside, leaving the patient in good health. At first the intervals are long, and the paroxysms do not recur for a year or six months, but by repetition their duration is lengthened and their frequency increased, until the local inflammation becomes almost permanent, when we may have the deposition of urate and phosphate of lime, so characteristic of Gout.

The symptoms of Retrocedent and Misplaced Gout depend upon the organ attacked. When the Viscera of the Thorax and Abdomen are affected, there appear the usual signs of Gastritis, Enteritis, Pneumonia, &c. When the Brain is the seat of the evil, it assumes rather the form of Apoplexy than Phrenitis—and when the heart is assailed, the case is one of Angina Pectoris.

When with these Arthritic affections there co-exists an infirm, debilitated condition of the patient—it is termed Atonic Gout. The pulse is feeble and wavering—the skin, cold and clammy—the pain intolerably oppressive and described as Spasmodic with constriction of the chest or stomach. When these pains are transitory though severe, and shift from place to place, now assailing the trunk and now the limbs, now one organ or part, and now another, it is the "flying Gout" of the books.

Treatment. During the Paroxysm. In young and robust subjects, and in the earlier attacks, it will be proper to resort to *V. S.*—but not in the opposite class of cases. Purgatives are almost always useful and necessary. I prefer the combination of a resinous with a saline, adding some aromatic. Emetics are very seldom indicated—I would employ them when the stomach was loaded with a recent full meal, at the commencement of a fit. *Opiates* are much objected to, by some, but in all prolonged paroxysms I am in the habit of prescribing the Dover's powder freely at night, and with excellent benefit.

The Tincture of Colchicum and Eau Medicinale, maintained by many to be the same—are on the one hand highly eulogized, as not only safe, but admirably successful; while on the other, they are accused of fatal tendency. I have seen them both employed—there was some advantage gained, yet not much; and no evil resulted. *Local management.* Leeches are generally ser-

viceable—they diminish the pain, if they do not shorten the paroxysm.—Some patients are relieved by a soft tepid poultice—while others derive comfort from cold astringent applications, as the solutions of Acetate of Lead—Sulph: Zinci:, &c. I have not seen the good effects promised from Opiate frictions and blistering. Percussion and bandaging are recommended by Balfour and others, but my patients cannot bear the part thus handled. With regard to the cold bath so much a subject of dispute, I would resort to it if in a young and robust patient, after proper depletion, the pain and inflammation were obstinately prolonged. Under other circumstances I would consider it unsafe, and dread its giving rise to Retrocedent or Metastatic Gout. *During the interval.* Temperance and exercise are the best Prophylactics. The diet should be nourishing but unstimulating. A threatened attack should be opposed by the use of Laxatives and tonics. The Tinct: Guiac: combines these properties—I think I have seen it serviceable. The Alkalies and Bitters have enjoyed a high repute—but since the Portland powder lost its reputation, are not so much used as formerly.

The *irregular* forms of Gout—the *misplaced* and *retrocedent* must be treated on general principles. If Entonic—the local affections will be highly inflammatory and will require the prompt and free employment of the Lancet, Leeches or Cups, Purgatives, and Blisters to or near the part assailed. If Atonic, on the other hand, an immediate resort to Opium, and Stimulants is necessary. The Tinct. Opii must be given in large doses, with Ether and other diffusible stimuli, while we apply the quickest revulsives to relieve the affected organ—Mustard—hot Turpentine—Moxa, &c.

RHEUMATISM.

This disease is specially interesting to the Physician, from the frequency of its occurrence—the intensity of suffering which it often causes, and the readiness with which, in the majority of cases, these sufferings are relieved by proper management.

The division of Rheumatism into Acute and Chronic, is familiarly and universally recognized; yet it is not easy to describe clearly the distinctions which separate these varieties, nor even the points of similarity which connect them. In the first, the local affection is always painful and inflammatory, and is attended, for the most part, with fever of high excitement. In the second, the local affection is, generally, less intensely painful, and sometimes productive of no pain—the derangement consisting merely in the impairment of the capacity of moving or being moved—and the part thus affected, often exhibits no external mark of inflammation, except a degree of swelling and consequent deformity. If Fever be present, which is not usually the case in any obvious degree, it is of low irritative type. There are, however, cases of Chronic Rheumatism, in which great pain is suffered by the patient, especially on motion of the diseased part; and others in which Fever, although not constantly present, comes on with much general and vascular disturbance from time to time. Rheumatic Inflammation chiefly attacks the larger joints—but may affect the smaller articulations also, and the fibrous tissue every where, and perhaps the cellular.

The Predisposing *Causes* are not well known, although it is evident that certain persons are much more susceptible of seizure than others. One attack renders the subject more liable to a second.

The Exciting or Occasional *Causes* are more obvious; sudden alternations of temperature and exposure ~~of~~ cold and moisture, are the chief. So clear is this connection, that a partial exposure will produce a local Rheumatism, as in the familiar instance of stiff-neck, from sitting near a partially opened window or door.

The *Diagnosis* of Rheumatism is usually easy. It is not liable to be mistaken for any other disease than Gout—the characteristics of which are well marked.

The *Prognosis* in Acute Rheumatism is favourable; very few die of it, although fatal terminations have been met with, where the attack was specially violent in a feeble constitution, or the febrile excitement was protracted into the Typhous state. The principal danger perhaps is found in the tendency to Metastasis—the inflammation leaving the joint or other external part, and invading some of the internal organs, as the Heart, the Lungs, the Diaphragm, &c. The symptoms thus arising are urgent; and the patient, if not promptly relieved, sinks under his severe sufferings.

In Chronic Rheumatism, the prospects are more gloomy. It is an affec-

tion of proverbial obstinacy, and in a large proportion of instances, adheres tenaciously.

Symptoms. Acute Rheumatism comes on with stiffness and pain in some one or more of the joints, or in some muscular part, soon attended with fever. The pain is severe, especially on motion, and the part becomes swollen and red, and tender on pressure—the pulse is full, hard and frequent—the skin harsh, hot and dry—the tongue lightly furred. A nocturnal exacerbation of pain and general disorder occurs regularly, and in the morning an uncertain degree of remission. After a duration of 10 or 12 days, the pain and inflammation subside, and the fever disappears—the part affected remaining for some time after weak and easily hurt. Rheumatic inflammation seldom runs into suppuration; in the joints it produces an effusion of synovia, which is afterwards absorbed readily. It is much disposed to shift its place—changing from one joint or muscle to another, and sometimes assailing the internal organs. I have seen it twice attack the Heart. In one instance, an Acute Carditis was excited, which proved rapidly fatal—in the other, it gave rise to palpitations, dyspnœa and hypertrophy of the ventricles, under which the patient finally sunk. The symptoms which are exhibited in these metastases, are usually such as appear in other acute inflammations of the organs invaded. Acute Rheumatism chiefly affects young adults and middle aged persons. I have seen it, however, exquisitely developed in a child of three years, and in old people. Both sexes seem equally liable to it.

Treatment. In the robust and strong it is well to employ the *Lancet*—but this instrument has been used with great imprudence by many, in the hope to extinguish the disease at once. A certain degree of caution is required, or injury will ensue—and although it is undoubtedly proper to relieve Hyperæmia (if it exist) in the plethoric, and to reduce the vascular excitement which prevails by bloodletting; yet it should be remembered, that there is something peculiar in the nature of the inflammatory affection, which refuses to yield to mere abstraction of blood; and that this remedial measure, when carried too far, has changed a transient or acute, into an obstinate chronic or passive Rheumatism. *Purgatives* are undoubtedly useful. I employ the Saline—in the first stages alone; as the case progresses in combination with Diaphoretics.

Diaphoretics, indeed, have been regarded as specifically adapted to the management of Rheumatism. The Antimonials are much prescribed. The Colchicum is highly recommended here as in Gout. It is said to combine, when given in proper dose, a purgative with a diaphoretic effect, and is much depended on by many practitioners. I make much use of Serpentaria—at first, with enough of the Epsom Salt in solution, to operate freely upon the bowels—afterwards with some form of Opiate. The *Dover's Powder* is invaluably beneficial when the earlier violence of excitement has been subdued by the Lancet and Cathartics; and in large doses, will often remove promptly all traces of the disease. In protracted cases, the Acetate of Ammonia, with Camphor and Opium, is highly efficacious; —Sulphur is also well adapted to relieve. In combination with these, we may frequently administer Infus. Cinchonæ with striking advantage. The Mercurials so warmly eulogized by some late writers, do not seem to be required in simple Rheumatism; but become necessary when there is any complication with Visceral disorders, or with Syphilis.

The local management of Rheumatism deserves attention. Leeches or Cups should be applied, and the flow of blood kept up by warm fomentations or soft poultices, which will relax and relieve irritation and tension; —at a late stage of the attack, Sinapisms may be applied, and embrocations of a volatile or stimulating nature made use of. The Vapour Bath is serviceable. I mention only to disapprove of cold applications.

Chronic Rheumatism is a state of disease difficult to describe. It may be the result of an intractable attack of the acute variety. There is a subsidence of Fever, and of general excitement—the appetite and strength of the patient are in great measure restored—and the appearances of local inflammation diminish or disappear, with the exception of the swelling, which continues or may increase, the joint being incapable of motion. In general, there is no acuteness of pain; but the part is ill at ease, and some cases are attended with excruciating sufferings, which no lapse of time subdues; and in others, fever persists of the low irritative type. The muscles which move the affected limbs emaciate—the joints become large, hard, stiff and misshapen, with a pale and waxen hue of the skin covering them. Chronic Rheumatism, when not the consequence of the Acute form, is said to select usually women and feeble men; but the most remarkable instance of it which I have ever met with, was in a stout and robust man—a Physician—in the prime of life—healthy and athletic. The case is worthy of description, as exhibiting very strongly the characteristic peculiarities of Chronic Rheumatism. The subject of it was sent for on a warm night in autumn, to see a patient some miles from home; he rode hastily thither, prescribed, and then, bathed in perspiration, lay down to sleep under a window in a strong current of air. On awaking, he found himself incapable of moving himself without severe distress—every limb and joint being stiff and sore. A brother practitioner being called, bled him 40 ounces, from which time he had no pain. He was still unable to move, and in a few hours after was bled 20 ounces more. He never recovered the use of his hands, but was able to walk slowly and feebly. His joints were swoln, pale and stiff—he emaciated gradually—his fingers were slightly bent, and had the appearance of waxen preparations. His appetite and digestion were good, and he had no obvious febrile exacerbations, though his nights were often restless and uncomfortable. In this state of helplessness he remained some years, with a clear intellect and cheerful spirit. Having removed to a distance, I know not the manner of his death.

Lumbago and Sciatica are two forms of Chronic Rheumatism, well known and of frequent occurrence in the aged. In these affections of the Hip and Loins, there is usually much pain and incapacity for motion, but with little fever or general disorder. Some have doubted whether they are correctly to be considered as Rheumatic, and have regarded them as affections of the large nervous trunks—but it is difficult, if not impossible, to draw such lines of distinction as are here aimed at; for many cases of painful affection of distant joints with swelling, readily recognized as Chronic Rheumatism of ordinary character, seem connected with, or dependent on, affections of the nervous trunks, and are relieved by cupping or leeching the part of the spine whence they arise.

Treatment. In Chronic Rheumatism, I would advise a total abstinence from the Lancet. The stimulating Diaphoretics are our best remedies—

Guiac--Camphor--Ammonia and Opium. Stimulants alone are much employed, and sometimes with good effect. The Tinct: Cantharid:—Turpentine—Savin--and Balsam Copaiba, are strongly eulogized. Sulphur is often beneficial, and in feeble subjects, may be well combined with Infus: Cinchon: and Serpentaria. The Colchicum Autumnale is supposed to be well adapted here also. The Phytolacca Decandra is thought to be similarly useful. The Lisbon Diet Drink is a formula much employed, and combines some of our best Diaphoretics. Experiments have been successfully made with the Prussic Acid in very obstinate cases. Endermic Medication by Vapour Bath—Fumigations of Sulphurous Acid--Chlorine—Phosphorus—Ether has been much in vogue. The natural Hot Baths have effected numerous cures in our own country—the springs of mountainous Virginia and of Buncombe, are much resorted to--and hot and sulphurous Waters are drank with remarkable benefit.

Local applications have not been neglected, and the number and variety of those recommended at different times, and by different persons, for the cure of this very obstinate disease, are great. Leeches and Cups are used occasionally with advantage. To Dr. Mitchell of Philadelphia, we owe the suggestion of the preference due to the Spine as the place of application—at the part whence arise the nerves supplying the joint affected. Epispastics, the pustular irritation of Tart: Antimon:—Moxibustion—the persevering employment of strong friction over, and forcible motion of the stiff articulation, have all restored patients. Acupuncture has often given striking relief, and so have Electricity and Galvanism.

The Diet during the protracted existence of Chronic Rheumatism, should be nourishing and generous. Motion of the stiffened limb should be resolutely and frequently attempted. If there be any obvious susceptibility to cold, it will be a useful precaution to envelope the trunk and limbs in flannel, or even to apply to the latter the flannel roller-bandage.

DISEASES OF THE EXCERNENT SYSTEM.

Of all the *classes* of the Physiological Nosologists, this has been found most difficult to delineate and circumscribe. The business of Excretion seems to be divided among many of the organs, which assist incidentally in its performance while engaged in their peculiar function. Thus the Lungs, the Liver, and the Intestines throw off much effete matter, while busied in digestion, absorption, and assimilation. The Kidneys are, perhaps, the only organs exclusively excretory—we know of no other function in which they are employed than mere elimination. Next to them, the skin perhaps, deserves to be considered in this point of view. Excretion is the most important office of the Cutaneous Integument, although by no means the only one.

The diseases which affect this extended surface are numerous, diversified, and often highly severe;—they are of frequent occurrence and in every respect deserve our particular attention.

Among the chief of the maladies in which the skin is especially implicated, are, the Exanthemata or Eruptive Fevers—a group of diseases so called. from the fact, that, a cutaneous eruption, preceded or attended by Fever, forms the prominent point in their history. Under this head are included Variola—Rubeola—Scarlatina—Dengue—Varicella and Vaccine.

The four first combine many circumstances of close analogy. A certain febrile disorder with notable gastric derangement precedes, by a pretty regular interval, a specific cutaneous eruption of definite character. The period at which this characteristic eruption makes its appearance, though subject to occasional and slight modifications is well known; it is transient in its duration, running a limited course, and then declining and passing away. The Small-pox throws forth its eruption on the 3d day from the invasion of the disease—arrives at its height on the 10th, and then declines. The Rubeolous eruption appears on the 4th, and declines after the 7th. Scarlatina shews itself on the surface on the 2d—and fades from the 5th. Dengue produces its eruption on the 3d, and disappears after the 6th. They are contagious always, and often become epidemic also. They affect the human constitution but once—a rule, which, however, is proved to be subject to occasional exceptions.

In the instances of Small-pox—Measles and Dengue the gastric disorder is notably diminished as soon as the eruption has appeared upon the skin; in Scarlatina this relief is less immediately observable.

The *Pathology* of the Exanthemata, is specially obscure, although there is no want of Theory or Hypothesis on the subject. The nature of the connection, so uniform and essential, between irritation of the mucous membrane of the Respiratory and Digestive apparatus, and inflammation of the Skin of varied appearance and character, is entirely unknown. It is very common to represent the Cutaneous affection as a *metastasis* of diseased action from the mucous tissue, which is assumed to be the seat of primary irritation, and first assailed—but this is incorrect. The mucous surface is

not always—if ever restored to a healthy condition at the time of the eruption; but the nature of the diseased action is altered. It is now affected similarly with the skin, and continues to be so until the latter is restored to health. In Small-pox—pustules form upon it; in Measles—the red patches are first seen on the palate; in Scarlatina—the tongue, throat and gastric surface, are last to lose their extreme susceptibility to painful impressions; their heightened color and obvious inflammatory condition.

The whole mass of fluids seems to be, in some manner vitiated in these Eruptive Fevers; of which the best proof is found in the fact that they are conveyed to the fœtus in utero when the pregnant mother is attacked. Such instances happen not unfrequently in Variola, and although more rarely in Measles also.

VARIOLA.

Small Pox—a well known Contagious, Eruptive, Inflammatory Disease. It has been supposed to be indistinctly mentioned in ancient writings, as prevailing among the Easterns, but we have no definite description of it until the 6th century.

Small-Pox is universally treated of under the separate heads of Distinct and Confluent; which terms however, refer not to any specific difference, but merely to the degree of violence of the attack, with the amount and extent of the attendant eruption.

Variola commences like the inflammatory fevers, with a rigor or shivering, followed by heat, pains in the head, back and limbs, gastric oppression, nausea and often vomiting, restlessness, anxiety and muscular debility. Sometimes there is soreness of the throat, with pain in the side and chest, cough and dyspnœa. In young children, the invasion is not unfrequently marked by convulsions. These symptoms continue for three days; on the fourth usually (it may be twenty-four hours sooner or later) the skin of the face and breast, exhibits an eruption, consisting of small papulæ, slightly projecting and of red colour, which afterwards spreads over the arms and the rest of the surface. From the time of its appearance, the febrile symptoms decline, and in a great measure subside. These pimples or papulæ, assume in a day or two the vesicular form, becoming distended with a thin serous fluid;—they increase in number and size, and on or about the 7th and 8th, are of a circular shape, with a depression in the centre of the greater portion. On the 9th and 10th, the contained fluid is turbid and purulent. In proportion as these pustules abound, the case is Distinct or Confluent. In the latter form of Small-Pox, they often run together so as to make a complete mask for the face, and on certain parts of the body, those for instance which lie always in contact with the bed, run into large patches and crusts. Where they are not in contact, the skin between and around them is inflamed, red, and elevated. There is Ophthalmia and the face and eyelids are swollen, the mouth and throat are sore, and the patient spits largely a tenacious saliva. About the 11th day, there is an abatement of the Inflammation, both Pustular and Cutaneous. The Pustules, or many of them crack, and the contained fluid oozes out, they flatten and by the 14th, have begun to dry and condense into a hard crust. From the 20th, these crusts fall off, leaving in a great majority of cases, a permanent depression or pit in the skin.

The case may thus terminate without further danger or inconvenience, and such is the history of a mild or Distinct attack, but when the Pustules are very numerous or confluent, we may have them spreading over and destroying the eye—extending into the throat and trachea, occasioning suffocation or severe pulmonary inflammation, and in such instances a secondary Fever arises, depending, probably, on the great degree of constitu-

tional irritation, occasioned by so extensive and violent an inflammation of the Mucous and Cutaneous surfaces. This secondary fever invades at variable periods, from the 8th to the 11th day. The tongue and mouth become dry—the pulse is very frequent and rather tense, but often feeble; the breathing is difficult—drowsiness comes on, increasing into Coma, and the patient sinks exhausted with intolerable sufferings.

The *Prognosis* is favourable in Distinct Small-Pox—in the Confluent form it is the reverse. Bad cases may be known from the first, by an imperfect eruption, the Vesicles rising very little, being rather livid than florid and filling, or as the phrase is, maturating badly. If at any time the Pustules flatten and the skin becomes pale or livid, the danger is great, especially if the pulse and strength fail, and the mind is observed to wander. The occurrence of any urgent internal determination is to be dreaded, whether to the Brain—as shewn by delirium, coma, &c. or to the Respiratory Organs, with pain in the side or chest, Cough and Dyspnœa.

The Sequelæ of Small-Pox, are often very serious. Deformity and blindness, with sometimes a permanent Ophthalmia, a Chronic Diarrhœa—Anasarca, occasionally follow it. The voice is in some persons permanently changed and rendered disagreeable by injury done to the soft palate. Scrofula is said to be excited to severe and rapid developement, and the predisposition to pulmonary disease generally, but more especially Tubercular or Scrofulous Phthisis.

Autopsy. The Variolous eruption is found not only on the skin, the vascular network or Rete mucosum, being the seat of the pustules, but extends to the mucous tissue lining the mouth, fauces, pharynx, trachæa, larynx, and rectum, and upon the conjunctiva. The structure and formation of the pustule in these positions, is not well made out. In the Cutaneous integument it is multo cellular. The *pit* is occasioned by the sloughing of a circular portion of the Cutis Vera.

In many subjects the Brain and its membranes are found dark with vascular congestion. In others the Lungs are engorged and hepatized and the Pleura inflamed.

Treatment. During the Eruptive Fever of Small-pox, if we are aware of the nature of the case, there is little temptation to interfere, when the attack is mild. I know not that there is any risk or evil, in the ordinary management of Fever of equal intensity, applied here. If at the time of access, there are exhibited determinations to the head, lungs, stomach, &c., violent and severe, the Lancet may be used—and its effect aided by mild Purgatives. The Mercurials are supposed to exert here a peculiar efficacy, but of this I am not satisfied. Great gastric oppression with foul tongue, and fetid breath, require an Emetic—especially if the retching be insufficient, and fail to empty the stomach of its crude contents, and morbid secretions. Mild Emesis can scarcely do harm and is serviceable besides, by favoring a centrifugal determination of the fluids. It often relieves the infantile convulsions which precede the eruption.

The Purgatives which I have advised to be used with moderation, during the eruptive fever, must be abstained from, when the papulæ are forming upon the skin; after this, the bowels should be kept free by Laxative Enemata.

The use of the warm bath, should be one of our earliest measures in the management of negroes and of whites of the lower class. It is beneficial

to children attacked with convulsions; who may be relieved with the Lancet cautiously employed, if the pulse be full and hard and the face flushed—and on the other hand if pale and feeble, may be tranquilized with small doses of the Tinct: Op: Camph. The apartment of the sick, should be well aired, and kept perfectly clean. He should lie on a firm mattrass, and if able sit up occasionally. The cool regimen, so vastly preferable to the heating system, anciently in vogue, must not, however, be carried to an extreme. It will, if urged, do harm, when the Pulmonary symptoms are prominent. Nor do our negroes, in general, bear it well, unless much modified.

Light mucilaginous drinks should form the only nourishment. The sore-throat should be gargled often with tepid water, and the inflamed eyes washed from time to time with milk and other mild Collyria, and carefully protected from light and other irritants.

To prevent the pitting, so much feared, many expedients are proposed. I have not confidence in any one of them. The resort to them in Confluent and really severe cases is trifling, and in Distinct Small-pox, there is little deformity left.

In the Secondary Fever, most advantage is derived from the mildly stimulating Diaphoretics, as the Infus: R: Serp: with slight additions of Æther, Camphor, or Ammonia. I employ *Opium* unhesitatingly and freely, when it is required to relieve the Cough, Dyspnœa, restlessness and other sufferings of the patient. It does not seem contraindicated by any circumstances but those which shew a tendency to Coma. I prescribe the Dover's powder or the Camphorated Tincture.

In protracted cases when the strength yields, Cinchona is of much service. The infusion may be combined with other remedies. Extensive crusts are rubbed off occasionally by the motions of the patient in bed, leaving painful sores. These must be dusted with Cinchona or finely powdered chalk, the pressure of the body frequently changed by the attendants, and extreme cleanliness inculcated.

If the "striking in" of the eruption—as the phrase is—occur, the Pustules flatten and become indistinct, with failing pulse, and cold and livid surface, it is necessary to stimulate promptly and energetically, both by internal and external means.

The treatment of the convalescent requires much attention. He is covered with a new and highly susceptible integument, and is specially liable to the ill effects of exposure and alternations—from which he must be guarded strictly by proper clothing. His diet should, for a long time, be plain and unstimulating, though nutritious.

Variolous Contagion is both *palpable* and *impalpable*. It may be communicated palpably by contact with the diseased person or with fomites, and by inoculation, or the direct insertion of Small-Pox Matter into a wound. It is also capable of diffusing itself palpably thro' the atmosphere. At what stage of the case a sick body becomes thus a focus of contagion, is not clearly known—perhaps from the 7th day, when a peculiar odour or effluvium begins to be given off.

The *latent period*—the interval between infection and invasion, is also doubtful—it is usually rated at from nine to fourteen days. The effects of inoculation shew themselves earlier—about the fourth day.

Small-Pox attacks the same persons but once—a rule clear and positive.

though not without exceptions. This exemption gave great importance to the practice of *Inoculation*, which enabled the subject to select his own time and circumstances for suffering the disease. It is difficult to account for the immense difference in violence and mortality between the casual and inoculated Small-Pox.

Variola is liable to many modifications in history and character, some of which have been pointed out and separated in common language by special denominations, while the strong similarity which they present to each other and to the common stock of all, is indicated in the use of a word now become familiar every where, *Varioloid.*

All the older writers speak of irregular forms of Small-Pox. Sydenham is particular in detailing the varieties which the disease offered in the several years of its epidemic occurrence under his own notice. Lieutaud speaks of a "spurious Small-Pox," occasionally taken for the legitimate. Parr tells us that "the varieties of Small-Pox are numerous." Others tell us of water-pock, of wind-pock, stone-pock, &c. in almost unnumbered diversity. It was only among the English, and not by them, until the time of Heberden, that Varicella (Chicken-Pox) was distinguished from Small-Pox.* Morton, of the time of Sydenham, speaks of it as mild Small-Pox. His contemporary must so have regarded it, if he met with it at all. And though Heberden, Willis, Rayer and M'Intosh talk very positively of the distinctions between the two, yet other writers have not been able to mark them so clearly. Thomson, for instance, maintains Varicella in all its varieties, to be a modified Small-Pox. And while Willan recognizes it only as presented in the serous or vesiculous form, Rayer acknowledges, that it occasionally assumes a pustulous condition. With regard to the grade, which is made the source of distinction between Distinct and Confluent Small-Pox, it should be remembered, that Ring has given us a case of confluent Chicken-Pox, and that M'Intosh has recorded two fatal cases, one in a child, the other in an adult. Heberden speaks of a malignant sort of Chicken-Pox, in which "the continuance of the pain and fever, after the eruption, and the degree of both these, though there be not above twenty pustules, are, as far as I have seen, what never happens in the Small-Pox." Chicken-Pox has been known to pit the skin, and Distinct Small-Pox often fails to do this. If we receive the diagnosis of M'Intosh, and others, who discern Chicken-Pox by the succession of crops of pustules, what shall we say to Heberden's acknowledgment of his having seen four cases of its unequivocal occurrence in Small-Pox? These are "the only instances," he says, and his language is striking, "which have happened to me something like what is *often talked* of—a second crop."

It seems to me, that the above observations, in making which, I have referred in preference to the older writers, exhibit plainly enough the difficulty of distinguishing Small-Pox from its kindred affections, if their actual identity be not established. The term, *Varioloid*, is a new one, first used by Thomson, in his "Account of the Varioloid epidemic," which prevailed at Edinburgh, in 1818 Cross gives an excellent history of a similar epidemic (which, however, he terms Small-Pox) as occurring at Norwich. The same pestilence, it is asserted, raged about the same time in

* That is, by the profession; nurses and common people, had noted and named these varieties at least half a century before.

France, Italy and Germany, from which last source it was brought into America in 1818, making its first invasion in Baltimore, (Md.) and Lancaster, (Penn.) It was first noticed in Charleston in January, 1824.

Varioloid has been assumed to differ essentially from Variola, Small-Pox, because, first, it affects persons known to have previously passed through attacks of regular Small-Pox; secondly, it affects persons previously vaccinated; and thirdly, it presents certain peculiarities of history and character, which serve as distinguishing marks.

The first of these alleged reasons is obviously of no force. It was long since observed, that Small-Pox sometimes failed to destroy the liability to its own recurrence, and instances of its repetition are to be found in all the old writers. "Petrus Borellus," says Heberden, "records the case of a woman who had this distemper seven times, and catching it again, died of the eighth attack." Dr. Oppert, of Berlin, relates the case of a girl, who, at six years of age, had Confluent Small-Pox. Seventeen years after, she was again attacked, and died of the disease. A similar case is authentically stated to have occurred in this city. If it is replied, that these cases are too few in number, to affect the general rule, that Small-Pox invades the constitution but once, we readily acknowledge the correctness of the assertion, and proceed to apply the inference to the case before us. During the prevalence of the epidemic of 1823–24, in Philadelphia, (call it Varioloid or Small-Pox,) but sixteen persons are reported, by Drs. Bell and Mitchell, as attacked with it, who had previously Small-Pox. A similar list may be made out of cases of the same kind occurring here, while the pestilence prevailed among us, so limited in number, however, as to prove most conclusively, that *Variola* protects *at least in a certain degree, from Varioloid* disease.

With regard to the second point mentioned above, it is only necessary to observe, that no well informed physician of the present day, retains any confidence in the absolute *preventive* power of Vaccine against the invasion of Small-Pox, however much he may be disposed to confide in its unfailing *modifying* influence. But of this, more hereafter.

Thirdly, the principal peculiarities which are supposed to characterize the Varioloid, and to offer specific marks by which we may discern it, are, so far as we have been able to collect, the following:

First, the eruption comes forth in successive crops.

Secondly, the pocks or pustules, when formed, are conoidal, without a central depression.

Thirdly, they are vesicular and not multicellular as in Small-Pox.

Fourthly, they are smaller than the variolous.

Fifthly, they contain lymph and not purulent matter.

Sixthly, they dry and fall off without pitting.

Seventhly, their progress and maturation are unattended with secondary fever.

To all these we would rejoin, that the circumstances above described, are by no means regular or connected in their occurrence; and that if they were, they would not imply sufficient distinctness to constitute a separate form of disease. For,

First, in the Small-Pox, the eruption is sometimes incomplete at first, the pustules appearing to thicken as the disease progresses; and it is well known to all nurses, to be easy to increase, locally, the number of pocks by

exposure of part of the body to long continued heat, as by lying on it, wrapping it, or exposing it to the heat of a fire.

Secondly, thirdly and fourthly, the size and configuration of the pustules, vary much in the most clearly defined cases of Small-Pox. Upon the same individual, some will be seen large, and others small, some conoidal, and others depressed in the centre. The internal construction of the pustules, will be found to differ in a corresponding manner; the conoidal are vesicular—those which present the depression in the centre are, like the Vaccine, multicellular, that is, divided into many separate cells or spaces. If we have not grossly deceived ourselves on many occasions, we have further noted that the pock changed its appearance in this regard during its progress; at first vesicular and conoidal, it exhibited afterwards a depression at the apex, becoming flattened and multicellular. But upon this, as it is by no means important to the argument, we shall lay no further stress, content, if we can draw the attention of the profession to it by our remark.

Fifthly, as to the assertion, so often repeated, that it is characteristic of the Varioloid vesicle to contain lymph or serum, and not pus or matter, as the common phrase is, I affirm, on the other hand, that the Small-Pox virus is limpid and colourless. The most experienced inoculators, as for example Parr and the two Suttons, always preferred clear transparent lymph. It is in the latter stages of the pock, after common inflammation has supervened upon that which is specific and peculiar, that we find purulent matter; and the few cases of Varioloid or modified Small-Pox, which run on into this stage, exhibit just as distinctly the formation of pus. If the inflammation of the skin be stopped at an early stage, we prevent this: and such, as I shall hereafter show, is the most important of the train of effects attributed to the Vaccine.

Sixthly, John Hunter has somewhere declared, that in each pock of the variolous eruption, a slough of the cutis vera (the true skin) takes place, answering in dimensions to the size and form of the pustules. This sloughing forms the pit or depression left by Small-Pox, and the circumstance is assumed by him and others, Ring, for example, and Dr. Adams, to be peculiar to, and diagnostic of Small-Pox, and to depend, not upon the intensity of the inflammation, but on its specific nature. Thus they propose to separate Varicella, or Chicken-Pox from Variola, or Small-Pox. It is easy, however, to demonstrate the fallaciousness of this test, supported as it is by the authority of such high names. A pit is not made by every Small-Pox pustule.* In distinct Small-Pox, and in inoculated persons, there is frequently left no mark or trace of the location of a pock. Nor can it be doubted, that the Chicken-Pox and the (so called) Varioloid, occasionally, though seldom, produce similar sloughs or depressions, and so leave marks on the faces of those who have gone through an attack.

Seventhly, Secondary fever is often wanting in the mild cases of Distinct Small-Pox, and very rarely occurs in the inoculated. Dr. Parr indeed mentions the absence of it as a peculiar character of inoculated Small-Pox. It

*Goëthe—When a child, at Frankfort, was attacked by Small-Pox there—long ill—but had the good fortune to escape without being disfigured.

Mary, Queen of Scots, so remarkable for her exquisitely fascinating beauty, had the Small-Pox in her early childhood—but, says Bell, "It must have been of a particular gentle kind, having left behind no visible traces."—*Bell*, p. 54

is clear, then, that no inference can be drawn from its absence, of a nature favourable to our opponents. It arises like the secretion of pus from the irritation of the cutaneous surface, and is proportioned in degree to that irritation. It is, therefore, met with now and then both in Varicella and Varioloid.

I believe Varioloid to be identical in nature with Small-Pox, because they are promiscuously capable of producing each other. The modifications which have been noted and discussed, I attribute in a vast majority of the instances presenting themselves at the present day, to the influence of Vaccine, of which I shall speak presently. In others, for they are confessedly irregular, to certain indefinable and varied peculiarities of constitution, or habit or condition of body in the affected subject.

Under this head of Varioloid, I unhesitatingly coincide with Dr. Thomson in comprising Varicella, Chicken-pox. This gentleman entered upon the course of observations, upon the Edinburgh epidemic, made by him with so much care and nicety, a thorough believer in the opinions of Heberden and Williams with regard to the separate and independent nature of Chicken-pox. His candor, however, did not long permit him to remain the advocate of this view of the matter. "During the epidemic, I had occasion," he says, "to observe natural Small-pox, modified Small-pox, and the disease which I had been accustomed to regard as Chicken-pox, co-existing in the same situations, and appearing in their progress, to produce one another. In three families in particular, situated at a considerable distance from one another, and between which, except through their medical attendants, no sort of intercourse had existed, my attention was strongly excited by observing Chicken-pox arise in unvaccinated children, from the contagion of malignant Small-pox. The occurrence of this event, in circumstances which left no room for doubt, because there appeared to be no possible source of fallacy in the observation, led me to conceive that all the various appearances of the epidemic, in the different classes of persons whom it attacked, might be produced by the operation of one and the same contagion."

Phenomena precisely similar, have occurred under my own observation, in the several invasions of this eruptive disease, call it what you will.—Such of my patients as had not been previously vaccinated, or had not had the Small-pox, exhibited, for the most part, the regular symptoms of Variola as it is found described in the books and recognized by the best authorities. Those, on the other hand, who had been protected by either of the above means, had the disease modified variously, and in different degrees of mildness, some of them scarcely, others not at all distinguishable from Varicella. That the same contagion is capable of producing these several forms of variolous disease, whether regular or in any manner modified, is not only proved by their occurring thus together spontaneously, or in the natural way, but has been definitely established by repeated inoculation with the matter of the modified vesicle Varioloid or Varicelloid, in which, regular well marked Small-pox was the result of the insertion of the virus. Among such examples the case of Dr. Hennen's son, of Edinburgh, is most worthy of being detailed. This boy, from whatever source infected, was seized with an eruptive disease, concerning which, Dr. Thomson thus explicitly expresses himself:—

"If I had been requested to point out the case, which seemed to me, to

correspond must accurately with the descriptions of Chicken-pox, I should certainly, have fixed upon the eruption of Dr. Hennen's boy." It was the circumstance of Dr. Hennen's viewing the disease in his son, as a well marked example of Chicken-pox, that led him to think of instituting the experiments which produced such interesting results. These results, may be stated briefly, as follows: In four children inoculated from the above case, the disease was mild, and of short duration—Varioloid or Varicelloid; in two, it exhibited the appearance of Small-pox. In three men, who caught the infection from sleeping in the same rooms with these inoculated children, the disease was "uncommonly severe"—not to be distinguished from Small-pox; and, in a fourth, under the same circumstances, "the mildest variety ever described of Chicken-pox."

Upon these grounds, then, I cannot help reprobating the introduction of a new term, the application of which is not only unnecessary, but calculated to confuse and lead into error. The modifications, which have been assumed, to constitute a separate disease, dignified with the specific appellation of Varioloid are each, and all of them, to be found described by the old writers, under various names. Thus we have from Dr. Huxham "an Account of an anomolous form of Small-pox at Plymouth, in 1741." Thus we meet, among the older writers, with the phrases, horn-pock, stone-pock, water-pock, wind-pock, crystaline-pock, swine-pock, sheep-pock, chicken-pock, and numerous others, by which, they intended to point out the undefined, but not uncommon varieties, which the variolous eruption occasionally assumed. I have already remarked that Chicken-pox was familiarly recognized as one of these varieties until the time of Heberden, who separated it under the name of Varicella or Variola pusilla, in which he was followed by Willan. I now add, that Dr. Bateman, closely as he was attached to Dr. Willan's views in general, found reason to doubt their correctness in this particular, as appears from an extract from a letter, written by him to Dr. Howitz of Copenhagen, in which he says, "I am much inclined to concur with you in the supposition, that Chicken-pox is, in fact, modified Small-pox."

These varieties and irregularities formerly noted of variolous disease. arose from peculiarities of constitution probably, in some instances; in others, from local or general condition of atmosphere, habits, manners, &c. and perhaps, in most, from causes entirely unknown and unassignable.

To all these, is now added, a more general and an uniform disturbing cause. The influence, namely of the Vaccine; and hence, at the present day, these variations and modifications are more regular, and better defined than they were of old, as well as infinitely more frequent.

Vaccinia—the Vaccine—derives its origin from the cow (Vacca.) It was first made known to the medical profession in 1798, by the justly celebrated Dr. Jenner, whom we rank, unhesitatingly, among the greatest benefactors of the human race. The history of Vaccine is an exemplification of the acuteness of the remark of Southey, in his Omniana, "that most things are known before they are discovered." Prela, physician to the Pope in 1825, contends, plausibly, from passages in Pliny and Celsus, that the Vaccine was known to the ancients, under the name of Boa. It had been long observed, in Gloucestershire and Dorsetshire, two of the dairy counties of England, that their cows were occasionally affected with a species of ulceration about the udder, which communicated to the hands of

the milkers a pustular eruption.* The occurrence of this eruption was noticed to have conferred upon such persons, a security against the casual infection of Small-pox, and such was the "general opinion," says Parr, "that the inoculator, who attempted to convey the Small-pox to one who had been thus previously affected with vaccine, was ridiculed." There was no difficulty in following up so plain a hint, and the artificial communication of this disease as a preventive of Variola was tried first by a farmer of that country, and afterwards by Dr. Jenner with the most satisfactory results. The early writings of the latter on this subject, were received with scorn, and his papers refused publication among the Philosophical Transactions. It, however, forced its way into notice; the value of the discovery was, after very vehement and angry debate, established on the most authentic basis, and the zeal of its promulgator amply rewarded by the British Parliament. Since that time, the Vaccine has been extended all over the globe, and all nations of mankind have exulted in the benefits thus bestowed upon them. It was first introduced into this city by our highly esteemed historian and practitioner, Dr. David Ramsay. To the present time it has enjoyed the undoubting confidence of the profession, with scarcely a solitary exception, and at once superseded, and almost entirely suppressed, the practice of Inoculation. Vaccination is performed by introducing, under the cuticle, a small portion of lymph, taken from a vesicle about the eighth, ninth or tenth day—while yet the fluid distending the vesicle is transparent and colourless. The puncture remains unchanged until the third or fourth day, when slight elevation and inflammation are perceptible, which increase slowly. About the sixth it assumes a regular circular form, with a depression in the centre. The vesicle is completely developed on the eighth or ninth day, and attains the average diameter of one-third of an inch. An areola now surrounds it, of an intensely florid red colour, and some febrile excitement of the system is perceptible, with stiffness, pain and slight swelling under the arm—if the vaccination be performed about the usual spot, above the elbow. The diameter of the areola differs from one to two inches. It is attended with a degree of roughness, hardness and intumescence of the skin over which it spreads, circumstances which denote its existence and extent in the black. The vesicle is multicellular, that is, composed internally of numerous spaces or little cells which communicate freely with each other. The fluid within these cells begins to dry away on the eleventh or twelfth day, having previously lost its transparency, and become milk or straw coloured—the areola at the same time, declines and gradully disappears. About the twenty-sixth day, a hard round scab of mahogany colour, smooth on the outside and remarkably hollowed in the centre, falls off, leaving a permanent cicatrix or sear of peculiar and characteristic aspect—its surface being marked with minute pits or depressions

*It has been attempted to trace this affection of the udder of the cow, to the Grease, a disease familiar to grooms, as attacking the heels of horses—the same hands being usually employed, as is affirmed, in the stable and the dairy. Both are again derived from the Small-pox itself, the matter of which is argued to undergo when brought into contact with these surfaces in the lower animals, the changes observed. I am not satisfied however, either with the facts or the reasoning adduced on this head. I also regard as unworthy of notice, the assertions of Ozanam and others, concerning the conversion of variolous into vaccine matter, by simple mixture with milk from the cow. But I should be glad to have made, in our own country, some decisive experiments in respect to the transmission of Small-pox through the cow, by inoculation of the udder.

similar to those on the head of a thimble, "denoting," says Willan "the number of cells of which the vesicle had been composed." It has been observed, that, as in variolous inoculation, the vesicle forming at the point of insertion has been attended by the eruption of others in different parts of the body—but this, as respects Vaccine, is a fact of very rare occurrence. Two such instances, however, have been communicated to me authentically.

I shall not attempt to describe any, of the numerous deviations from the above history, which are to be met with, in the irregularly diversified forms of what are called "spurious vesicles." Suffice it to say, that any striking or obvious departure from the ordinary phenomena, in the progress of a vaccine pustule, should make us cautious of confiding a patient to its protective influence. Vaccine, like every other disease, may undergo certain modifications from the condition of the recipient, an infinite majority of which, are slight and unessential, not affecting its character and influence, nor impairing its genuineness. Others there are, however, though few in number, which change the nature of the specific action, either locally, or in its effect upon the system, and thus render it "spurious." Of the local modifying causes, the principal and most common, is the mechanical irritation of the vaccinated spot, (as by rubbing,) by which a common inflammation is substituted, for the specific, and a common sore produced. Erysipelatous inflammation may also supervene, and interfere with the formation of a regular vaccine pustule. Vaccine, may, perhaps, be affected by, or combine with some forms of constitutional disease, and thus take on a *hybrid* state. All cutaneous affections disturb the regularity of its progress, if they do not hinder the success of the operation, and no physician vaccinates as willingly from a pustule on the arm of a patient known to labor under Scrofula, Herpes or Lues Venerea, &c. as from a healthy subject. There is a lurking doubt, in the mind of every one, however scornfully he may regard the humoral pathology, whether he may not, by vaccinating from such a case, communicate a mongrel disease.

I am disposed to lay some stress upon the progress of maturation of the vesicle, although this may be slightly hastened or impeded, without detracting from the value of the pustule. Thus the temperature of the season, if high, may occasion it to anticipate twenty-four or thirty-six hours perhaps, and severe cold, on the contrary, by checking the cutaneous circulation, may retard it in an equal degree. The debility or robustness of the subject, may give rise to like results.

The pustule should be prominent and clearly defined, and the areola distinct and vivid. There should attend, some febrile disturbance of the general system. The appearance of the scar, as above described, I consider as of much importance. We should revaccinate when this peculiar appearance is wanting, and when the scar is smooth and resembles that of a burn.

I do not find the observation made by any writer, but I have certainly noticed the occurrence of a doubtful or spurious vesicle, to cause much difficulty in procuring, subsequently, the satisfactory results of vaccination in the production of a regular or genuine pustule.

Vaccination is of course best, and most successfully performed with fluid lymph, taken immediately from the vesicle, but this simple mode of communication is not always possible. When required to be transported to a distance, or kept for any length of time, it may be preserved by various

methods. The fluid is caught on a small plate of glass, which is pressed closely against another of similar size and shape, and the edges waxed, to prevent the access of air. We receive it on the points of quills, likewise protected from the air by envelopes. Cotton thread is dipped in it and laid aside with equal care. But in the scab we have the most convenient means of preserving and transporting this invaluable agent. It has been kept for years and found capable of communicating the genuine disease, just as when recent. It may be protected from the contact of air and moisture, by immersion in softened wax or spermacetti. It is scarcely necessary to remark, that the first scab alone possesses the specific vaccine character; if this falls off, or is rubbed off too early, another may succeed it, but possesses none of its useful properties.*

Some have strenuously argued the propriety of recurring occasionally to the udder of the cow, the original source of Vaccine, to ensure its genuineness, and renew it from time to time, but it may now be looked on as settled, that its primary and essential characteristics are unchanged and unimpaired by any imaginable number of transmissions. Nay more, it is obviously improved by thus passing through the human system; it is so modified as to have become a milder malady, though not less effectual in its influence on the constitution. A person inoculated directly from the cow, always suffers more, much more, than one who receives the infection from a human vesicle, and, as far as has been ascertained, with no corresponding advantage to compensate.

Among the animals which have been found capable of receiving and communicating the Vaccine, are the horse, the ass, the camel, the buffalo, the goat, the sheep, and the baboon.

It has been doubted, whether Variola does not exert a reciprocal influence upon the Vaccine, whether it tends to prevent its introduction into the system, or in any manner or degree modifies it, and disturbs its regularity when so received. But the most positive proof has been obtained, of the transmission of perfect vaccine, through constitutions previously subjected to the variolous impression. It has been in this way brought across the Atlantic, by the successive vaccination of individuals, among the passengers and crew of the vessel, many of whom were known to have had the Small-pox.

Much has been said of the difficulty of communicating the disease more than once to the same constitution. Gregory, of the Small-pox Hospital, declares that "it is impossible, or nearly so, to reproduce the vaccine in any thing like its genuine form, where the cicatrix left by a preceding pustule is perfect, and the result of a perfect vesicle." Dr. Darrach, of Philadelphia, in experimenting on this subject, found that the repeated insertion of the matter in the arms of vaccinated children, occasioned a local disease, exactly similar to that produced by the first operation, with the exception, that the pustule and scab were much diminished in size. In none of these

* It is difficult, in this latitude, to preserve any form of vaccine matter, (even the scab not excepted,) through one of our summers. The heat and moisture of our climate, in the warm months, occasion it to undergo a deterioration, or decomposition, which renders it unfit for use—at least, such has been the uniform result of numerous experiments, made with the greatest nicety and care. If we fail in transmitting the Vaccine from one subject to another, in continuous succession, through the summer and autumn, we find ourselves under the necessity of obtaining a new supply from our more fortunate brethren elsewhere.

cases could fever, or any other constitutional effect be discovered. Unprotected children were, with complete success, vaccinated from one of these scabs not larger than a line (one twelfth of an inch) in diameter, which was the result of a fourth insertion of the virus.

The duration of the influence of the Vaccine, the permanency rather of the effect which it has wrought upon the system, has been denied by some who are staunch believers in its temporary power to destroy the susceptibility of the body to the invasion of Small-pox. But the mass of facts collected under this head, certainly go to prove, that whatever may be the result of the vaccine inoculation—whatever the impressions made by it upon the organism—this result—these impressions are not likely to be impaired or obliterated by any process of time or any changes in the state of the system from any cause. Of two hundred and fifty cases collected by Dr. Gibson, "in which Small-pox is said to have occurred after vaccination, it appears that by far the greater number had been vaccinated less than two years." In Dr. Thomson's account of similar eruptions, they occurred at various intervals after vaccination, from a few days to fifteen years, not warranting, in any degree, the suspicion that the power of the Vaccine is weakened or exhausted by time.

To ascertain the true influence of Vaccine upon Small-pox, is an object of the utmost importance. I will, therefore, briefly and formally recapitulate the points fairly established, by a due consideration of the facts collected on every side.

First—Vaccination is no longer to be regarded as exhibiting the absolute power of preventing the access of Small-pox. In *some persons*, it does seem completely to destroy the susceptibility to variolous contagion—*in all* it diminishes notably, though in different degrees, the liability to be infected.

Secondly—The introduction of the Vaccine virus into the system in its genuine form, and in the proper manner, never fails to produce there such changes as to *modify certainly* the future influence of the variolous poison, if, under any circumstances, it should affect the constitution.

Thirdly—The *modification* thus asserted, does not appear to consist *essentially* in a diminution of the violence or duration of the first stage—the eruptive fever. This, though it is in general very slight, may be as severe as in casual Small-pox.

Fourthly—Nor does it appear to imply *essentially* a diminution of the quantity of eruption upon the skin; although the number of pustules is usually very limited in Small-pox after vaccination.

Fifthly—The great power of the Vaccine unquestionably consists in modifying the *progress in of flammation* in thevariolous eruption. Hence, the slighter degree of cutaneous irritation which terminates in numerous instances without secretion of either lymph or pus—the less amount of matter formed in the pustules (when effusion does occur)—the sudden check given in a majority of cases, to the suppurative process, after it has commenced—the early disposition to rapid drying. Hence, the absence or transient duration of ophthalmia, which, with ulceration of the cornea and destruction of the eye, constitutes the worst and most unmanageable sequela of unmodified Small-pox. Hence, the rare occurrence of sloughing of the cutis, and consequent pitting, seaming and scarring of the skin. It has now become, happily, as unusual as it once was common, to see a person deformed with these marks of Small-pox. Hence, lastly—the infre-

quency of what is termed secondary fever, and its mildness, when it does show itself. This is well known to be the most dangerous of the several stages of unmitigated Small-pox; it is tedious in duration, and leaves scarce one constitution in ten thousand, without inflicting severe injury and permanent deterioration. The convalescence from Small-pox is, on this account, in the unprotected, notoriously slow. On the other hand, there is no convalescence more rapid or more perfect than that of a patient who has been assailed after vaccination. He recovers both perfectly and promptly.

"Observe," says Dr. Gregory, "how strikingly opposed to (contrasted with) each other in this respect, are the influences of inoculation and vaccination. Inoculation lessens the quantity of eruption, but does not alter, in the slightest degree, the progress of inflammation in that which is thrown out. Vaccination, on the other hand, while it does not (necessarily) affect the quantity of eruption, always influences more or less, the progress of inflammation in it."

Sixthly—Nor can it be denied, that as far as we have a right to draw our conclusions from the tables of mortality, published in reference to this question, vaccination tends much more surely and effectually to the *prevention of fatal results,* than inoculation. Thus among the cases stated to us by Doctors Bell and Mitchell, as occurring in Philadelphia, in 1823—24.

Out of 248,	64 had been previously vaccinated	1 only died.
	7 had natural Small-pox previously	3 of these died.
	9 had been inoculated	3 of these died.
	13 unknown	no deaths.
Of those entirely unprotected.	155 in number, there died	85, more than one half; a dreadful mortality.

It is surely impossible to set in a stronger light, the advantages of vaccination, than is done in the above paragraph. Results similar to these, are given in the annual reports of the National Institution of Great Britain, and in every other authentic document, without exception, to which we have access.

In our own community, Variolous and Varioloid diseases have prevailed repeatedly. I give you a list of the deaths, extracted from our annual bills of mortality, as follows:

1824	1 Small-pox	1 Swine-pox—	
1825	49 „ „		
1826	29 „ „		
1827		1 Swine-pox—	
1828 / 1829	No deaths recorded.		
1830	17 Small-pox.	4 Varioloid.	Total, 102.*

Of whom, as far as I could ascertain, on the most diligent inquiry, but one was known to have been previously vaccinated.

*The greatest number of cases occurred in 1829–30. Vaccinatiou had then been urged extensively. The city and suburbs contain a population of 40,343. During the whole of the above period, cases of Small-pox were occasionally brought into the harbour, by vessels from infected ports.

If we ask, how has this ancient and justly dreaded pestilence been thus deprived of its terrors, and shorn of its fatal energies, what shall be the impartial answer? Not by any change in the nature of the case—not by any loss of its inherent power over the human constitution—for the mortality among the unprotected is most appalling, greater than that of yellow-fever, or, perhaps, even the plague; amounting every where, it would seem, to fully one half. Nor is it owing to such protection as inoculation affords—for that practice has been obsolete among us for the last quarter of a century. But it is clearly attributable, and we do not hesitate to ascribe it to the kindly influence of the Vaccine—the most valuable among the generous benefits conferred upon their fellow men, by the cultivators of the divine art of healing.

MEASLES.

Morbilli. Rubeola.—A specific form of Fever, Eruptive, Contagious, Inflammatory. It is often Epidemic as well as Contagious. It is difficult to communicate by Inoculation, but Home and Speranza affirm their success—employing blood taken from vivid patches of eruption.

Symptoms. Rubeola makes its appearance with the ordinary tokens of Catarrh. There is rigor often, followed by heat of skin, headache, hard and frequent pulse, soreness of throat, watery redness of the eyes, sneezing, a hard and dry cough, nausea and retching. In children, convulsions occasionally attend. This state of things may continue for many days, but usually, on the fourth, the eruption breaks forth, at first visible on the palate, then on the face and arms, gradually spreading over the body. It is in patches of small red spots, rough and a little elevated. The fever generally abates, but not always on its coming out. The eyes suffer much from it, the adnata being covered and the lids swollen. It begins to fade on the seventh, and soon dies away, the cuticle desquamating in minute branny scales. In the progress of Measles or at the subsidence of the Eruption, Pneumonia is very apt to develope itself. At this latter period Diarrhœa of very obstinate character often arises. Rubeolous Ophthalmia is singularly persistent.

The *Prognosis* in Measles is generally favourable—and the danger is fairly proportioned to the attendant maladies above mentioned, the Pulmonary Inflammation especially. In children, the convulsions are occasionally, though not often, fatal. It sometimes happens that the Fever is of low typhous type—which is unfavourable. The "striking in," or sudden disappearance of the Eruption, is also unpropitious, and excites well grounded alarm.

The *Diagnosis* does not seem to me difficult; yet it was not until nearly the end of the 17th century, that Measles were separated from Small-pox, a confusion which we should now regard as impossible.

It may be confounded with Scarlatina, which has indeed been called Confluent Measles. This very phrase suggests a distinction, for the patches of Rubeolous Eruption, are usually separated by notable intervals. In 1829, however, I saw some cases in which they were nearly Confluent. In Scarlatina the deep diffused redness of the tongue and mouth is diagnostic. The Catarrhal affections are prominent in Measles—the sneezing, coughing, &c.—and the Ophthalmia, which is often absent and very seldom at all severe in Scarlatina.

Pathology. One might almost venture to declare that Rubeola consists in the combination of some peculiar Exanthema with Catarrhal Fever.—This affects the human constitution but once—a rule presenting very few exceptions. The Eruption may occur alone, a circumstance not unfrequently met with in Rubeolous Epidemics—the Rubeola Incolta of Good—R. sine Catarrho of Willan—the Bastard Measles of the common people. Now by this form the susceptibility to a second attack is not destroyed nor

even impaired. Other varieties of Measles are noticed by writers. R. Nigra—R. Maligna—R. Variolosa. I have met with none of these. The concurrence of Measles with Typhus Fever, presents a livid eruption with great danger, a compound of Nigra and Maligna.

Treatment. It often happens that the Catarrhal symptoms which precede the eruption, are not sufficiently severe, to call for any remedial management, and the nature of the case is first shewn by the appearance of the red patches on the surface. Under such circumstances, it is best not to interfere farther, than to keep the patient at rest, in bed, and on low diet—regulating properly the temperature of his apartment, which should be moderately but not unpleasantly warm. But in the majority of cases, something more will be required. If there are tokens of Pulmonary inflammation and the pulse will bear it, *V. S.* should be freely resorted to—and the use of the Lancet followed by the administration of Cathartics, combined with Diaphoretics—as the solution of Sal: Epsom in the Infus: R: Serp. The Vascular excitement being thus reduced—the Diaphoretics should be continued with some Demulcent and Anodyne preparation to relieve cough and procure rest. Cups or Leeches to the chest may be demanded—and the Thorax enveloped in warm poultices, if the Dyspnœa be severe. In children affected with much Gastric disorder and Convulsions, the Emetic is useful—given, perhaps while the subject is in the warm bath and followed by a Mercurial Cathartic. The eyes should be kept clean, with tepid water at first, and afterwards washed with mild astringent Collynia. If Diarrhœa come on upon the subsidence of the eruption, small doses of Opium will restrain it—aided by the Cretaceous mixture with Kino—or by small doses of Acet: Plumbi.

The *Pectoral* uneasiness remaining after Measles is best removed by the persevering application of successive blisters to the chest, or the irritation of the Tartar Emetic Ointment—while we administer full doses of Dover's Powder nightly.

The sudden disappearance—"striking in" of the Eruption is always alarming—and apt to be attended with Convulsions in children; and in adults with Dyspnœa and Abdominal distress. If the pulse be full and hard, we must bleed freely—but if on the other hand, as is more common, the patient has sunk into a sort of collapse, we must resort to the highest order of Stimulants. The hot bath of 100 Fahr. at least, must be made ready, while we apply Sinapisms to the cold and pale, or livid surface—the Camphorated Tinct: of Opium, with the Vol: Alkali, and hot wine or brandy must be given boldly and in abundance, until the skin becomes warm and the pulse rises.

When Rubeola is accompanied with Fever of Typhous character, it is proper to premise a mild Emetic, after which, a Mercurial Cathartic will be of service—followed promptly by the stimulating Diaphoretics, which should be persevered in—adapting the doses to the condition of the patient and the effect produced.

The *Convalescent* from Measles requires to be treated with caution. His diet must be mild and unstimulating, though nutritious, and he must be clad warmly and guarded from all exposure.

SCARLATINA.

Scarlet Fever. A Contagious, Eruptive, Pyrectic disease, characterized by a peculiar efflorescence of a very florid red hue, whence the name designating it. First described, about the middle of the 17th Century. It is often Epidemic as well as contagious. It has been communicated by Inoculation, and as has been asserted, with the same effect as in Small-pox, of procuring a milder disease. As a general rule, it attacks but once the same subject.

Scarlatina is divided by writers, commonly into three varieties—S. Simplex, S. Anginosa and S. Maligna. I regard these, as mere differences in degree of violence and intensity. The attack is ushered in with irregular shiverings attended by oppression at stomach, and nausea, with occasional vomiting—then succeed heat of skin, thirst, frequent pulse, and headache, with sometimes delirium. The eruption appears generally, on the second day, but may postpone until the 3d or 4th, shewing itself first on the face and neck, gradually spreading over the trunk and limbs, until it almost covers their surface. On the succeeding day, the lining membrane of the mouth, fauces and pharynx becomes inflamed, with ulceration of the tonsils and uvula in the Anginose form. The tongue throws off its fur and assumes a deeply red color, the surface being at first smooth, but soon shining with elevated and projecting papillæ—it is acutely sensible to the touch or to the application of temperature either above, or below its own. The efflorescence which in many cases is almost confluent, is bright red,—hot—dry—little elevated or rough—indistinctly papular. The skin seems thickened. On the 5th and 6th days it begins to fade—and desquamates gradually in minute branny flakes. At this time the hands and feet are swollen, and for some short period the new surface remains morbidly sensible, especially that of the mouth. The inflammation in the Anginose form, is not always attended with ulceration, but sometimes the Tonsils, &c. are covered with flakes of Lymph or false membrane.

In bad cases the eruption comes out irregularly and is ready to recede. When this occurs, Congestion or Inflammation of some internal organ is prompt to follow—and we have either Dyspnœa with thoracic pain, or vomiting and purging, or convulsions. If the patient be not quickly relieved, the pulse sinks, the countenance becomes ghastly, the complexion pale or livid, the skin cold, and death rapidly hastens on.

By the term Scarlatina Maligna, I would designate those cases in which the Fever assumes the Typhous type. This is common in some localities where, of course the Epidemic visitations of Scarlet fever are highly dreaded. The Eruption in these attacks may be early or otherwise. The throat is affected with ulceration, which has a tendency to slough—is of ash color, and gives out a fetid odour, and an acrid discharge, excoriating the nostrils, and the corners of the mouth, and if swallowed, offending the stomach and intestines, and producing vomiting and purging. The internal organs are often attacked at the onset—there may be delirium, often quiet and playful;

Dyspnœa with mucous râle—and intestinal or peritoneal inflammation. The termination of this variety is often fearfully hurried, taking place from the 3d to the 5th day. Recovery is very slow and for a long while doubtful.

The Convalescence from Scarlatina is attended in many cases with Anasarca, and in some with general Dropsy. It is not so apt as Measles, or Small-pox, to leave permanent sequelæ, affecting the Thoracic or Abdominal Viscera.

Autopsy. The appearances on examination after death, vary. In some, there is engorgement of the brain and vascularity of the membranes with effusions. In others, the Lungs are congested and hepatized;—in others still, there is injection of the mucous surface of the stomach and intestines. I have had no opportunities of personal observation, never having lost a case of Scarlatina.

Diagnosis. I have not found it difficult to distinguish Scarlet Fever from Measles which it most resembles—by the want of Catarrhal symptoms in the Fever of Incubation, by the confluent extension and peculiar appearance of the Eruption, which in Measles is in patches, more distinctly papular and more prominent. The Scarlet tongue with elevated and swollen papillæ is also characteristic. They differ much in the Sequelæ to which they subject the patient. The books make a confusion between Scarlatina Maligna and Cynanche Maligna. In the instances of the latter formidable pestilence which I have met with, the Eruption was not general or much diffused, and the tongue continued furred thickly to the end.

Prognosis. Scarlet Fever, as it prevails in this city, (and it is of frequent occurrence) assumes usually a mild form, and the proportion of deaths is small. The type of Fever in the first place, and in the second, the degree in which the internal organs suffer, would indicate the force of the attack. Thus if there were delirium orconvulsions—or the ulcers of the throat assumed a gangrenous aspect—or Dyspnœa supervened; and especially if with any or all these, there was combined a disappearance of the rash or efflorescence, we should know the patient to be in serious danger.

Treatment. In general it will be sufficient to commence the management of the case with a mild *Cathartic.* If the vascular excitement be specially high, it may be reduced by the Lancet. The throat being much inflamed, we may apply Leeches at the angle of the jaw or on the neck. An *Emetic* will relieve occasionally the oppressed stomach, if it be not emptied by spontaneous vomiting. After the Eruption is fairly out, the *Cathartic* should be abandoned and the case trusted to the Diaphoretics.

Currie, Gregory, and other high authorities, advise strongly the *Cold affusion* in Scarlet Fever, and attribute to it the best results—while on the other hand, those who consider the Cutaneous Eruption in the Exanthemata as a Metastasis from the Mucous Membranes which they regard as the seat of primary irritation, deprecate the application of cold water, as extremely dangerous. Truth lies between them—but in general we may decide that the remedy, though safe, is not necessary, nor capable of the striking good effects which some would teach us to expect from it. Should any form of Visceral inflammation arise in the progress of the case, it must be combatted with the usual remedial measures. I am not aware that the connection with Scarlatina modifies the necessary treatment.

In Scarlatina Maligna, it is prudent to begin with a prompt *Emetic*, fol-

lowed by a mild dose of *Calomel*. The Cordial Diaphoretics are early required and may be combined with other stimulants in requisite amount. Cinchona—the Vol: Alkali—and the Tinct: Op: Camph: are among our best remedies. The hot bath should be used if the surface is cold and pale or livid, and Sinapisms extensively applied. If the bowels are not moved by the Mercurial, Enemata should be administered. The throat should be washed with tepid water and steamed—and if there be from the ulcers much fetid discharge, which may irritate the stomach, the *Emetic* may require to be repeated.

Great confidence is placed by many Practitioners, in the exhibition of the Infusion of Cayenne Pepper, both as a local corrector of the morbid condition of the gangrenous Ulcer, and as the stimulant best adapted to the exigencies of the case.

The Dropsical Affections which supervene so often during convalescence from Scarlatina, must be treated as formerly advised, under the head of Hydrops—with this modification, that they allow and require an early and free use of tonic and aromatic formulæ—as the Infus: Cinchon with Rad: Serp: and Camphor, in small doses, with Nitrat: Potass: and Nitrous Ether.

I ought not perhaps to omit that the German Homoiopathists propose the use of Belladonna as a preventive of Scarlatina in all its forms. They imagine it to excite a state of disease similar to, or identical with Scarlatina. The speculation is ingenious, but is not sufficiently confirmed. My own experiments with the Belladonna have been altogether unsatisfactory.